CITY OF BRADFORD.

REPORT

ON THE

Health of Bradford

FOR THE YEAR 1898,

BY THE

MEDICAL OFFICER OF HEALTH.

BRADFORD:
M. FIELD & SONS, SOUTHGATE PRINTING WORKS.

Sanitary Committee, 1898

(Meets every Wednesday at 5 p.m.)

The Worshipful the Mayor

Mr. Alderman F. W. Jowett, Chairman

Mr. Councillor P. Smith, Deputy Chairman

Mr. Alderman	Hardaker	Mr. Alderman	Popplewell
,,	Lister	,,	Pratt

Mr. Alderman Robinson

Mr. Councillor	Akam	Mr. Councillor	Hutton
,,	Burke	,,	Johnson
,,	Crabtree	,,	Milner
,,	Croft	,,	Moorhouse
,,	Crossland	,,	Moser
,,	Dawson	,,	O'Flynn
,,	Dixon	,,	Abram Peel
,,	Dobby	,,	Priestley
,,	Foster	,,	Priestman
,,	Freeman	,,	Robinson
,,	Gray	,,	S. Smith
,,	Greenwood	,,	Trotter
,,	Hartley	,,	Wade
,,	Hayhurst	,,	Wilkinson
,,	Horsfall	,,	Williamson

Mr. Councillor H. S. Wright

City Hospitals Committee, 1898.

(Meets last Tuesday in each month.)

Mr. Alderman F. W. Jowett, Chairman

Mr. Councillor P. Smith, Deputy Chairman

Mr. Alderman Lister
,, Popplewell
,, Pratt
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Mr. Councillor Burke
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,, Dawson
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,, Foster
,, Freeman
,, Gray
,, Hayhurst
,, Horsfall
,, Milner
,, Moser
,, Priestman
,, Robinson
,, Williamson

Staff of Health Department.

W. Arnold Evans, M.D., Medical Officer of Health
Jas. T. Kitchin, M.D., Superintendent of City Hospitals
F. W. Richardson, Bacteriologist and Public Analyst
Jas. Chambers, Chief Inspector of Nuisances
J. Hemingway, Meat Inspector
H. Raistrick, Assistant Meat Inspector
G. H. Brayshaw, Food and Drugs Inspector
T. W. Calvert, Inspector under Shop Hours' Act
J. P. Greenwood, Sub-Inspector of Nuisances
T. H. Ramsden, ,, ,,
H. Drake, ,, ,,
R. Yeadon, ,, ,,
H. E. Wynn, ,, ,,
T. Ellison, ,, ,,
R. Parker, ,, ,,
S. Harrison, ,, ,,
H. Simpson, ,, ,,
C. Sutcliffe, Disinfecting Officer
J. McTaggart, Manager of Destructor Works
J. Crowther, Statistical Clerk
G. H. Bramfitt, Clerk
R. Walton, Junior Clerk
W. Margerison, Junior Clerk

In addition to the above the Medical Officer of Health is assisted in the Inspection of New Buildings by the following officers under the Building Committee:—

T. Preston, Chief Building Inspector
H. E. Craven, Assistant Building Inspector
I. Ingham, ,, ,, ,,
F. Gledhill, ,, ,, ,,

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Statistical Summary.

Situation: Latitude 53·4 N.; Longitude 1·7 W.

Elevation: 250—1,000 feet.

Area of City: 10,776 acres.

Density of Population: 21·6 persons per acre.

Number of Inhabited Houses: 52,700.

Population: 216,361 (1891).

233,737 (estimated to middle of 1898).

Birth-rate: 23·92 per 1,000.

Death-rate: Recorded, 17·54 per 1,000.

Zymotic, 2·20 per 1,000.

Infantile Mortality, 184 per 1,000 births.

Total Rainfall: 28·27 inches.

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VITAL STATISTICS.

POPULATION.

The estimate of the Registrar General of the population of the City in the middle of the year 1898 is 233,737. It is difficult to state with any approach to accuracy what the number of people living in the City is, in consequence of the chief data upon which an estimate is based having been obtained so long ago as the Spring of 1891. However, the calculations in this report are made upon the Registrar General's estimate.

The first Table shows the chief statistical rates since the year 1883.

TABLE I.—Shewing corrected Population, Birth-rate, and Mortality Rates from 1883—1898.

YEAR.	Corrected Estimate of Population to middle of each year.	Annual Rate per 100 living.		
		Birth-Rate.	Death-Rate.	Zymotic Rate.
1883	199,214	29·88	18·77	1·5
1884	201,347	30·86	21·13	2·6
1885	203,504	30·55	18·62	1·5
1886	205,684	30·55	20·35	2·3
1887	207,887	29·83	21·44	2·9
1888	210,113	29·82	18·66	1·6
1889	212,364	29·53	21·15	2·9
1890	214,634	29·10	23·21	2·3
1891	216,938	28·64	22·12	2·35
1892	219,262	27·18	17·91	1·46
1893	221,610	27·58	20·90	3·22
1894	223,985	26·60	16·95	1·65
1895	226,384	26·03	19·80	2·47
1896	228,809	25·94	16·77	1·50
1897	231,260	24·55	17·39	2·24
1898	233,737	23·92	17·54	2·20

Appended is the distribution of the population in the Wards of the City. It will be seen that the density varies from 3·5 persons per acre in Allerton Ward, to 92·4 in the West Ward.

TABLE II.

WARDS.	Population.	Acreage.	Persons per Acre.
North	13,809	372	37·1
South	14,178	308	46·0
East	16,834	392	42·9
West	15,351	166	92·4
Listerhills	20,199	320	63·1
Great Horton	15,962	1283	12·4
Little Horton	16,533	428	38·6
East Bowling	17,354	557	31·1
West Bowling	18,636	1004	18·5
Exchange...	5,236	117	44·7
Bradford Moor	18,929	674	28·0
Manningham	24,276	457	53·1
Bolton	9,101	994	9·1
Heaton	17,402	879	19·7
Allerton	9,937	2,815	3·5
CITY TOTAL	233,737	10,776	21·6

MARRIAGES.

From information kindly supplied by Mr. Crowther, Superintendent Registrar of the Bradford district, and by Mr. Helmsley, Superintendent of the North Bierley Registration district, I am enabled to compile the following table which shews that the marriage-rate was the same as in the previous year, viz.: 1 wedding to 107 of the population. This is equivalent to an annual rate of 18·6 persons married per 1,000 of the population. In London the corresponding figure was 18·7.

TABLE III.

Period.	Number of Marriages.	Proportion of Marriages to Population.
1891	2,171	1 in 99
1892	2,059	1 in 106
1893	1,944	1 in 114
1894	2,035	1 in 110
1895	2,053	1 in 110
1896	2,244	1 in 102
1897	2,149	1 in 107
1898	2,174	1 in 107

BIRTHS.

The number of births registered during the year was 5,593, consisting of 2,819 males and 2,774 females. The birth-rate per 1,000 of the estimated population is 23.92, the lowest figure yet recorded in Bradford, and a diminution of 0.63 per 1,000 on the birth-rate for 1897.

TABLE IV.

Shewing Birth-rates in Cities and Towns of England having a population of over 200,000, *during the year* 1898.

Towns in order of magnitude of rates.	Birth-rate per 1000.
Salford	34·7
Birmingham	34·0
Sheffield	33·8
Hull	33·4
Liverpool	33·2
Manchester	32·7
Newcastle	31·6
Leeds	31·2
33 Large Towns	30·3
Leicester	29·5
London	29·5
Nottingham	28·9
Bristol	28·5
Bradford	**23·9**

Table V. shews the distribution of births in the municipal Wards; the rate per 1000 of the population varies from 17·9 in Listerhills to 30·7 in the South Ward.

TABLE V.

Shewing the Births and Birth-rate in the City of Bradford in each of the 15 *Wards in* 1898.

WARDS.	MALES.			FEMALES.			MALES AND FEMALES.			Birth-rate per 1000.
	Legitimate	Illegitimate.	Total.	Legitimate.	Illegitimate.	Total.	Legitimate.	Illegitimate.	Total.	
North	173	12	185	154	13	167	327	25	352	25·5
South	200	16	216	208	11	219	408	27	435	30.7
East...	189	2	191	180	6	186	369	8	377	22·4
West	164	14	178	164	7	171	328	21	349	22·7
Listerhills .	155	8	163	193	5	198	348	13	361	17·9
Great Horton ..	189	7	196	192	3	195	381	10	391	24·5
Little Horton...	189	24	213	180	34	214	369	58	427	25·8
East Bowling ...	220	17	237	203	10	213	423	27	450	25·9
West Bowling	265	5	270	241	8	249	506	13	519	27·8
Exchange ...	49	6	55	37	9	46	86	15	101	19·3
Bradford Moor	265	7	272	236	11	247	501	18	519	27·4
Manningham ...	284	9	293	311	10	321	595	19	614	25·3
Bolton	85	2	87	78	4	82	163	6	169	18·6
Heaton	152	8	160	155	2	157	307	10	317	18·2
Allerton	97	6	103	107	2	109	204	8	212	21·3
City Total ..	2676	143	2819	2639	135	2774	5315	278	5593	23·92

DEATHS.

The total number of deaths recorded in 1898 was 4102, of which 2,030 were of males and 2,072 of females, being a slight increase on the total for the previous year.

The death-rate per 1,000 of the population is 17.54, an increase of .15 per 1000 on the rate for 1897. The death-rate for the whole of England and Wales was 17.58, for London 18.68, and for the 33 large towns 19.03 per 1,000.

TABLE VI.

YEAR.	Estimated Population in the middle of each year.	Births.	Deaths.	Annual Rate per 1000 living.	
				Births.	Deaths.
1882	197,103	6225	4142	31.59	21.01
† 1883	199,214	5953	3741	29.88	18.77
1884	201,347	6216	4255	30.86	21.13
1885	203,604	6218	3791	30.65	18.62
1886	205,684	6285	4187	30.55	20.35
1887	207,887	6202	4458	29.83	21.44
1888	210,113	6266	3922	29.82	18.66
1889	212,364	6272	4492	29.53	21.15
† 1890	214,634	6247	4982	29.10	23.21
1891	216,938	6214	4800	28.64	22.12
1892	219,262	5959	3927	27.18	17.91
1893	221,610	6112	4632	27.58	20.90
1894	223,985	5960	3797	26.60	16.95
1895	226,384	5894	4483	26.03	19.80
† 1896	228,809	5945	3838	25.94	16.77
1897	231,260	5678	4023	24.55	17.39
1898	233,737	5593	4102	23.92	17.54

† In these years, the births and deaths are those registered in 53 weeks.

In searching for the causes of the increase in the death-rate I find that four different affections chiefly contribute to it, three of which belong to the class usually known as preventible, viz., cancer, diarrhœa, measles, and tuberculous diseases.

The increase or decrease in the chief classes of diseases in comparison with average for the previous five years is shewn in Table VII.

TABLE VII.

DISEASES.	Deaths in 1898.	Average 1893-1897.	Increase or Decrease.
Heart Disease	242	312	− 70
Nervous Diseases	426	478	− 52
Bronchitis, Pneumonia, and Pleurisy ...	738	768	− 30
Atrophy and Debility	139	167	− 28
Scarlet Fever	12	40	− 28
Smallpox	...	28	− 28
Whooping Cough	67	81	− 14
Old Age	204	217	− 13
Premature Birth	118	123	− 5
Diphtheria	16	14	+ 2
Enteric Fever	46	41	+ 5
Enteritis	72	60	+ 12
Phthisis, & other Tuberculous Diseases	460	438	+ 22
Measles	104	75	+ 29
Diarrhœa	267	224	+ 43
Cancer	208	165	+ 43

The Table following allows a comparison in the chief vital statistics to be made between Bradford and twelve other large towns. It will be seen that whilst Bradford is by far the lowest on the list in the birth-rate column, yet two other towns, viz., Bristol and Leicester, record a lower death-rate; but in the proportion of deaths from zymotic diseases, Bradford occupies the best position. In the infantile mortality rate, however, Bradford takes only a medium place, six of the other towns having a lower death-rate amongst infants under one year of age.

TABLE VIII.

Comparative Table shewing the Estimated Population, Birth-rate, Death-rate, and Infantile Death-rate in each of the Thirteen largest towns of England and Wales (those having a population of over 200,000*) for the year* 1898.

	Estimated Population to middle of 1898.	Birth-Rate.	Death-Rate.	Zymotic Rate.	Deaths of Infants to 1000 Births.	Persons to an Acre.
London ...	4,504,766	29·5	18·7	2·78	167	60·3
Manchester	539,079	32·7	21·9	3·11	197	41·8
Liverpool ...	633,645	35·2	24·0	3·22	184	47·9
Birmingham	510,343	34·0	20·0	2·78	191	40·2
Leeds ..	416,618	31·2	19·2	3·12	182	19·3
Sheffield ...	354,478	33·9	20·2	3·82	195	18·1
Bristol ...	316,900	28·6	17·2	2·69	164	27·1
Nottingham	236,137	28·9	17·7	2·37	178	21·5
Bradford	**233,737**	**23·92**	**17·54**	**2·20**	**184**	**21·68**
Hull	229,887	33·4	18·4	2·99	182	25·6
Newcastle ...	223,021	31·7	21.4	2·84	190	41·5
Salford ...	215,702	34·7	22·7	4·03	212	41·7
Leicester ...	208,662	29·6	16·9	3·35	191	24·3

Mortality in Wards.

The death-rates in the Wards vary from 12.51 and 12.83 per 1000 in Bolton and Heaton Wards to 20.18 and 20.42 in the South and East Bowling Wards.

TABLE IX.

Shewing the Mortality Rates in the various Wards.

WARDS.	Total death-rate per 1,000 living.
North	19·9
South	20·1
East	14·7
West	19·3
Listerhills	17·8
Great Horton	17·1
Little Horton	19·0
East Bowling	20·4
West Bowling	18·9
Exchange	18·0
Bradford Moor	19·2
Manningham	16·1
Bolton	12·5
Heaton	12·8
Allerton	14·4
City Total	17·54

Ages at Death.

Infantile Mortality.—The deaths of infants under one year of age was 1,033, equivalent to a rate of 184 per 1,000 of the children born, an increase of 5 per 1,000 on the rate for the

previous year. This rate amongst the 33 large towns varied from 150 per 1,000 births in Croydon, to 225 in Preston.

The following table gives the principal causes of infant mortality.

TABLE X.

Rates of Mortality of Children under 1 year of age, from Chief Infantile Diseases per 1,000 Births.

	1896.		1897.		1898.	
	Deaths.	Rate per 1 000 Births.	Deaths.	Rate per 1,000 Births.	Deaths.	Rate per 1,000 Births.
From all Causes	849	142	1019	179	1033	184
Lung Diseases ...	159	26	143	25	190	34
Convulsions .	121	20	110	19	130	23
Atrophy and Debility	125	21	121	21	119	21
Premature Birth	106	17	122	21	118	21
Diarrhœa	50	8	248	43	204	36
Whooping Cough	49	8	21	4	36	6
Tuberculous Disease ...	39	6	31	5	31	5
Measles	23	3	18	3	14	2

In the wards the infant mortality varies from 134 per 1,000 births in West Bowling Ward to 266 in the West Ward.

TABLE XI.

Shewing number of Deaths of Infants under 1 year of age and the Death-rate per 1000 Births in each Ward.

WARDS.	Deaths of Infants under 1 year of age.	Death-rate per 1000 Births.
North	70	198
South	78	179
East	52	137
West	93	266
Listerhills	81	224
Great Horton	69	176
Little Horton	87	203
East Bowling	115	255
West Bowling	70	134
Exchange	25	247
Bradford Moor	99	190
Manningham	87	141
Bolton	25	147
Heaton...	49	154
Allerton	33	155
CITY TOTAL	1033	184

Table XII. sets forth the mortality at the different times of the year. It is seen that the largest number of deaths occurred in the first and third quarters. This is chiefly due to climatic causes, the cold weather in the early part of the year causing a larger number of deaths from diseases of the

respiratory system, whilst the hot weather of the summer being more favourable to the propagation of affections of a diarrhœal nature.

TABLE XII.

*Seasonal and Infantile Mortality.**

WARDS.	Quarters.				Total Deaths.	Deaths under 5 years of age.	Percentage of Deaths under 5 years to total Deaths.	Percentage of Deaths under 1 year to total Births.
	Mar.	June.	Sept.	Dec.				
North	77	53	59	53	242	115	47·5	19·8
South	70	54	67	61	252	113	44·8	17·9
East	63	62	51	43	219	80	36·5	13·7
West	77	56	67	61	261	111	42·5	21·7
Listerhills	86	83	70	77	316	118	37·3	22·4
Great Horton ..	54	62	62	63	241	95	39·4	17·6
Little Horton ...	72	57	78	70	277	119	42·9	15·9
East Bowling ...	78	69	101	63	311	161	51·7	25·5
West Bowling ...	82	83	91	54	310	123	39·6	13·4
Exchange	20	20	24	19	83	38	45·7	24·7
Bradford Moor ...	74	71	87	88	320	140	43·7	19·0
Manningham ..	92	85	88	80	345	128	37·1	14·1
Bolton	30	25	26	19	100	31	31·0	14·7
Heaton	53	59	36	48	196	58	29·5	7·2
Allerton	36	31	26	33	126	44	34·9	15·5
Public Institutions	126	123	121	133	503	86	17·0	...
City Total ..	1090	993	1054	965	4102	1560	38·0	18·4

* In this table the deaths occurring in the Public Institutions have been deducted from the Wards in which the Institutions are situate and classified together.

TABLE XIII.

Shewing the proportion of Deaths of Children under 1 *year and under* 5 *in the City of Bradford, during the* 20 *years* 1879-98.

YEARS.	Deaths under 1 year per 1000 Births.	Deaths under 1 year per 100 Deaths at all ages.	Death-Rate under 5 years per 1000 living at that age.	Death-Rate under 5 years per 100 Deaths at all ages.
1879	152	23·5	74·3	42·4
1880	176	27·2	82·2	48·0
1881	154	25·8	56·4	40·7
1882	174	27·0	71·4	45·9
1883	147	23·4	50·5	36·8
1884	181	34·2	62·1	41·2
1885	144	23·6	49·9	37·7
1886	168	25·1	59·4	41·5
1887	179	24·9	62·0	41·6
1888	153	24·6	50·0	39·0
1889	181	25·3	60·8	42·6
1890	169	21·2	55·8	35·9
1891	181	23·4	57·2	39·0
1892	155	23·5	44·8	37·4
1893	198	26·1	79·5	39·7
1894	144	22·6	59·2	36·1
1895	203	26·6	75·9	39·2
1896	143	22·1	56·2	38·8
1897	179	25·3	64·2	36·9
1898	184	25·1	67·4	38·0

Deaths in Public Institutions.

The deaths in the Public Institutions amounted to 503, distributed as follows:—

	Males.	Females.	Total.
Eye and Ear Hospital	7	1	8
St. Catherine's Home	—	16	16
Children's Hospital	13	17	30
City Hospital for Infectious Diseases	23	19	42
Infirmary	87	62	149
Workhouse	164	94	258
	294	209	503

Infectious Diseases.

The number of deaths attributed to this class of diseases was 516, giving a zymotic death rate of 2.20 per 1000 of the population. In Table XIV. are given the figures for the past ten years.

TABLE XIV.

Shewing number of Deaths from Zymotic Diseases in Bradford during the years 1889-1898.

DISEASES.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	Total in 10 years for each Disease.
Small-pox	1	...	...	4	113	27	...	1	...	...	146
Measles	113	208	81	62	68	111	17	105	77	104	946
Scarlet Fever...	63	46	143	45	71	72	25	24	9	12	510
Diphtheria	12	8	13	10	19	13	18	12	10	16	131
Whooping Cough... ...	178	50	133	90	97	63	98	105	42	67	923
Typhus Fever	1	...	2	...	...	...	...	...	...	2	5
Typhoid Fever	48	31	27	18	48	31	39	28	30	47	347
Other or doubtful Fevers	4	3	5	1	5	1	3	...	1	1	24
Diarrhœa	205	154	106	91	292	53	361	69	349	267	1947
Total Zymotic Diseases each year	625	500	510	321	713	371	561	344	518	516	4979

The prevalence of Infectious Disease in Bradford as compared with the thirty-three great towns is shewn in the following table.

TABLE XV.

1898	No. of Deaths.	Death-rates per 1000 living	
		Bradford.	33 Large Towns.
Small-pox	..	0·00	00·0
Measles	104	0·44	0·56
Scarlatina	12	0·05	0·14
Diphtheria and Croup	17	0·07	0·31
Whooping Cough ..	67	0·28	0·42
"Fever"	50	0·21	0·20
Diarrhœa	267	1·14	1·22
7 Zymotic Diseases ...	517	2·21	2·85

The mortality from the chief diseases of the infective order is seen in the tables following :—

TABLE XVI.

Deaths from Measles.

WARDS.	Quarters.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North	1	1	1	3	...	...	...	...	2	4	6
South	4	2	2	1	...	...	...	...	6	3	9
East	3	...	3	3	...	...	...	...	6	3	9
West	...	...	2	1	...	...	...	...	2	1	3
Listerhills	3	2	2	2	1	1	...	...	6	5	11
Great Horton ...	...	..	2	1	3	...	...	...	5	1	6
Little Horton ...	1	1	4	1	2	2	...	1	7	5	12
East Bowling ...	1	...	4	3	6	...	1	...	12	3	15
West Bowling ...	2	1	8	4	...	2	...	...	10	7	17
Exchange	...	1	1	...	...	...	...	. .	1	1	2
Bradford Moor...	1	1	4	1	...	...	1	...	6	2	8
Manningham ...	...	...	1	...	1	...	...	2	2	2	4
Bolton	...	...	1	...	...	...	...	...	1	...	1
Heaton	...	...	1	...	...	...	...	...	1	...	1
Allerton	...	..	...	...	...	...	...	...	...	...	...
City Total ...	16	9	36	20	13	5	2	3	67	37	104

Ages at Death.

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
14	45	23	11	5	6	...	...	...	...	...	...	104

TABLE XVII.

*Deaths from Diphtheria.**

WARDS.	Quarters.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North	...	...	...	...	...	...	...	...	...	...	...
South	...	...	...	1	...	1	...	...	..	2	2
East	...	...	...	...	...	1	...	...	...	1	1
West	...	...	...	...	1	2	...	...	1	2	3
Listerhills	...	...	...	1	...	...	...	..	...	1	1
Great Horton ...	...	...	..	...	...	...	1	..	1	...	1
Little Horton ...	...	...	...	...	...	...	...	...	...	...	...
East Bowling ...	...	...	...	...	1	...	...	...	1	...	1
West Bowling ...	...	...	1	...	...	...	...	...	1	...	1
Exchange	...	...	...	...	...	...	...	...	...	...	...
Bradford Moor...	...	...	...	...	...	...	...	...	...	...	...
Manningham ...	...	...	...	...	...	1	1	...	1	1	2
Bolton	...	...	...	...	...	...	...	...	...	...	...
Heaton	...	2	...	...	...	...	...	1	...	3	3
Allerton	...	...	...	...	...	1	...	...	...	1	1
City Total ...	...	2	1	2	2	6	2	1	5	11	16

Ages at Death.

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
1	1	4	1	...	9	...	...	...	...	...	...	16

* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XVIII.

*Deaths from Scarlet Fever.**

WARDS.	Quarters.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North	...	...	...	...	...	...	...	...	...	...	...
South...	...	...	...	...	...	...	...	...	...	..	...
East	...	...	1	...	...	...	1	...	2	...	2
West	...	...	...	...	1	...	...	...	1	...	1
Listerhills	...	...	...	...	...	...	...	...	...	...	...
Great Horton ..	...	...	..	...	1	...	...	...	1	...	1
Little Horton ...	...	...	...	...	..	1	...	1	...	2	2
East Bowling ...	...	...	..	...	...	...	...	...	..	...	...
West Bowling ...	...	...	...	...	1	1	1	...	2	1	3
Exchange	..	...	...	...	..	...	...	...	...	..	...
Bradford Moor...	...	...	..	..	...	...	...	...	...	...	...
Manningham ...	...	...	1	1	...	...	...	...	1	1	2
Bolton	...	...	...	...	...	..	...	...	...	...	...
Heaton	...	...	.	...	..	.	...	...	..	..	...
Allerton	...	...	..	...	...	1	...	...	...	1	1
City Total ...	...	..	2	1	3	3	2	1	7	5	12

Ages at Death.

Under 1 Year.	1—	2—	3—	4...	5—	10—	15—	20—	30—	40—	50—	All Ages.
1	...	2	4	2	3	...	...	...	...	...	...	12

* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XIX.

*Deaths from Diarrhœa.**

WARDS.	Quarters.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North...	...	...	...	..	7	10	5	1	12	11	23
South...	...	...	...	...	3	9	1	2	4	11	15
East	...	...	...	...	2	5	...	...	2	5	7
West	3	...	1	...	9	8	1	...	14	8	22
Listerhills	...	...	...	1	6	8	...	2	6	11	17
Great Horton ..	...	...	...	...	2	6	1	2	3	8	11
Little Horton ..	..	1	...	...	10	8	2	...	12	9	21
East Bowling ...	1	...	...	...	15	14	2	3	18	17	35
West Bowling ...	...	...	1	...	10	11	2	...	13	11	24
Exchange	1	...	...	...	5	1	1	...	7	1	8
Bradford Moor ...	...	..	1	...	11	5	1	2	13	7	20
Manningham ...	...	3	...	...	19	15	2	2	21	20	41
Bolton	...	...	...	...	2	2	...	...	2	2	4
Heaton	..	1	...	...	8	3	1	1	9	5	14
Allerton	...	...	...	...	1	2	1	1	2	3	5
City Total ...	5	5	3	1	110	107	20	16	138	129	267

Ages at Death.

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
204	31	2	...	2	...	...	...	...	1	7	20	267

* Deaths in Public Institutions are referred to in the Wards from whence the patients come.

TABLE XX.

Deaths from other Zymotic Diseases.

WARDS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Puerperal Fever.		1898.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North	1	...	..	...	...	...	1	...	...	...	2
South	1	2	...	...	2	1	1	...	...	1	8
East	2	...	...	...	...	...	1	...	...	...	3
West	...	2		...	...	1	...	...	...	...	3
Listerhills	1	3	...	1	1	1	...	1	...	...	8
Great Horton ...	1	1	...	1	...	1	1	1	...	...	6
Little Horton ...	2	...	1	...	1	1	1	2	...	2	10
East Bowling	2	2	1	...	...	1	1	...	...	...	7
West Bowling ..	3	2	1*	...	...	...	1	3	...	1	11
Exchange	1	...	...	...	1	1	...	...	...	...	3
Bradford Moor ...	5	2	2	1	...	1	1	2	...	1	15
Manningham ...	3	7	...	1	1	1	1	1	.	1	16
Bolton	...	1	...	...	...	1	...	2	..	...	4
Heaton	...	2	...	1	...	...	1	1	...	...	5
Allerton	2	1	1	...	1	1	1	...	...	1	8
CITY TOTAL ...	24	25	6	5	7	11	11	13	...	7	109

* Deaths in Public Institutions are referred to in the Wards from whence they come.

ENTERIC OR TYPHOID FEVER.—During the year 288 cases were reported to me in accordance with the provisions of the Infectious Diseases Notification Act, of which 47 had a fatal termination. Of these cases 173 were removed to the Leeds Road Hospital for isolation and treatment. Although the total number of cases has been large it is satisfactory to note the mortality has been low, the percentage fatality being only 16·3 in comparison with 20·1 for the year preceding. An analysis of the cases is contained in the tabular statements following.

TABLE XXI.

Shewing number of cases, deaths, and case-mortality from Typhoid Fever during the year 1898.

AGE.	CASES.		DEATHS.		Death-Rate per cent.
	Males.	Females.	Males.	Females.	
Under 5	6	6	...	1	8·3
5—10	20	18	...	2	5·2
10—20	49	36	9	3	14·1
20—30	40	34	6	6	16·2
30—40	17	20	6	1	18·9
40—50	19	10	5	3	27·5
50 and upwards	9	4	3	2	38·4
ALL AGES	160	128	29	18	16·3

TABLE XXII.

Shewing number of deaths and percentage mortality from Typhoid Fever during each of the last 10 *years.*

YEARS.	No. of Deaths.	Deaths per 100 cases notified.
1889	48	28·7
1890	31	21·5
1891	27	17·2
1892	18	22·5
1893	48	22·3
1894	31	22·0
1895	39	22·0
1896	29	19·0
1897	30	20·1
1898	47	16·3

TABLE XXIII.

Notification of Typhoid Fever in different Streets, 1898.

NORTH WARD.

1, Back Victoria Terrace
2, Bolton Road
1, Captain Street
1, Irving Street
1, Loom Street
1, Manningham Lane
1, Nathan Street
1, North Street
1, Northbrook Street
1, Paperhall Court
1, Pine Street
1, Spring Gardens
1, Stanacre Place
4, Thurnscoe Road
1, Wild Boar Street

SOUTH WARD.

2, Birk Street
1, Birksland Street
1, Bowling Back Lane
1, Clark Street
1, Frances Street
1, Fullerton Street
1, Garnett Street
1, Gladstone Street
1, Harewood Street
2, Harris Street
1, Higher William Court
1, Joseph Street
4, Leeds Road
1, Lyndhurst Street
4, Mount Street
1, Sutcliffe Street
1, Thursby Street
1, Wakefield Road
2, Weber Place
1, Wentworth Street

EAST WARD.

1, Byron Street
1, Cordingley Street
1, Exeter Street
1, Hillside Road
1, Oxford Road
1, Scott Street
1, Undercliffe Street
1. Wilfred Street
1, Wingfield Street

WEST WARD.

1, Abbey Street
1, Bilton Place
1, City Road
1, Crown Street
1, Eldon Place
1, Hanover Square
7, Infirmary
1, Longlands Street
1, Raven Street
1, Roberts Place
1, St. Michael's Road
1, Tetley Street
3, Thornton Street
1, Westgate
1, Westgrove Street

LISTERHILLS WARD.

2, Abramgate
1, Ashley Street
1, Bright Street
1, Cobden Street
1, Duncan Street
2, Earl Street
1, Fitzgerald Street
1, Grantham Road

Listerhills Ward—continued.

1, Lumby Street
2, Mannville terrace
1, Merton Road
2, Neal Street
1, Portland Street
1, Preston Street
1, Spring Place
1, Talbot Street
1, William Street

GREAT HORTON WARD.

1, Arncliffe Terrace
3, Beckside Road
2, Collins Street
3, Copthorne Road
1, Copthorne Street
1, Fenton Street
1, Haycliffe Lane
1, Ingleby Place
1, Jennings Place
1, Lawrence Street
1, Lidget Place
1, Melrose Street
1, Old Road
2, Princeville Road
1, Princeville Street
1, St. Margaret's Road
2, Southfield Lane
3, Stephenson Street

LITTLE HORTON WARD.

2, College Road
1, Copley Street
1, Farside Green
1, Gower Street
1, Hampden Place
1, Holme Mount
1, Horton Green
1, Independent Street
1, Jesse Street
2, Lower Thomas Street
1, Manchester Road
1, Newall Street
2, Osborne Street
1, Park Road
1, Quaker Lane
1, South Street
1, Workhouse

EAST BOWLING WARD.

1, Addison Street
1, Balfour Street
3, Bolling Street
1, Broom Street
1, Derwent Street
1, Furnace Inn Street
1, Hirst Street
1, Leicester Street
5, Moody Street
1, Munster Street
1, Pollard Street
1, Rayleigh Street
2, Sloane Street
2, Wakefield Road
1, Wilmot Place

WEST BOWLING WARD.

1, Baird Street
2, Bengal Street
1, Birch Lane
2, Bismarck Street
3, Boynton Street
2, Calcutta Street
1, Clough Street
1, Donisthorpe Street
5, Evens Terrace
1, Little Cross Street
2, Lowfield Street
3, Manchester Road
1, Parkside Road
1, Pembroke Street
1, Rooley Lane
1, Rydal Street

West Bowling Ward—continued.

1, St. Stephen's Road
2, Tennant Street
1, Tichborne Road
2, Woodroyd Road
2, Wootton Street

EXCHANGE WARD.

1, Bridge Street
2, Chandos Street
1, George Street
1, Heap Street

BRADFORD MOOR WARD.

3, Amberley Street
1, Armstrong Street
1, Barkerend Road
1, Bowling Back Lane
1, Firth Street
1, Furnace Inn Street
1, Harewood Street
1, Harrison Street
2, Johnson Court
1, Laisterdyke
1, Laurel Street
1, Leeds Road
2, Myrtle Street
1, Napier Street
1, Rufford Street
1, Rushton Road
2, School Square
4, Stone Street
1, Wellington Street
1, Wilberforce Street

MANNINGHAM WARD.

1, Alice Street
1, Binbrook Street
1, City Road
1, Fairbank Road
1, Fearnsides Terrace
3, Hollings Road
1, Ingleby Street
1, Manningham Lane
1, Parkfield Terrace
1, Picton Street
1, Primrose Terrace
1, Rosse Street
1, Salt Street
2, St. Michael's Road
1, Southfield Square
1, Thornton Road
1, Wallis Street
1, Woodlands Road
1, Young Street

BOLTON WARD.

2, Bolton Hall Road
1, Midland Road
1, South Parade

HEATON WARD.

1, Abingdon Street
1, Beamsley Street
1, Chassum Street
1, Church Street
1, Heaton Grove
1, Heidelberg Road
1, North Park Terrace
1, Patent Street
1, St. Mary's Road

ALLERTON WARD.

1, Bay o' Biscay
1, Copy Street
2, Cottingley Road
1, Hazelhurst Brow
2, Hoxton Street
2, Olive Grove
1, Prescot Terrace
1, Shaftesbury Avenue
1, Snakehill Lane
1, Washington Street

Typhus Fever.—During the year there have been two outbreaks of this disease. The first one occurred in the early part of February and invaded two houses in Fitzgerald Street. Four persons were infected and two died. The second outbreak occurred in Myrtle Street, Leeds Road, but consisted of two cases only, both of which made a good recovery.

All the cases were promptly isolated in the Fever Hospital, the infected houses were at once disinfected, cleansed, and the remaining occupants kept under surveillance until all danger of the further spread of the disease was over. I feel convinced that by immediate isolation and disinfection a considerable prevalence of this most infectious and fatal disorder was prevented.

Smallpox.—One importation of Smallpox occurred during 1898. It was the case of David Broadbent, of 144, Willowfield Street. This man had been employed in repairing brickwork at the Smallpox Hospital in Middlesborough, where an epidemic of the disease was raging. He finished his work in Middlesborough on January 25th, on which day he came to Bradford, and sickened of Smallpox on the 4th of February. He was immediately isolated in the Bierley Hall Hospital. The house was disinfected and its occupants visited daily for 18 days. No extension of the disease took place.

Notification of Infectious Diseases.

During the year the large number of 1,334 cases of Infectious disease were notified in accordance with the Infectious Diseases Notification Act; this is a large increase upon the number for the previous year, and as the following tabular statements show, is mainly due to an increase in the prevalence of Scarlatina during the latter part of the year.

TABLE XXIV.

Month.	1894.	1895,	1896.	1897.	1898.
January	241	103	79	52	85
February	175	60	65	56	72
March	130	48	60	61	69
April	126	42	43	41	56
May	173	64	50	58	80
June	117	36	76	62	63
July	118	72	75	60	73
August	112	57	71	50	91
September	108	66	91	68	161
October	104	113	85	80	230
November	119	18	72	62	192
December	74	62	66	60	162
Total	1597	805	833	710	1334

The diseases were constituted as follows :

	1894.	1895.	1896.	1897.	1898.
Scarlet Fever	1035	379	397	331	796
Typhoid Fever	141	177	152	149	288
Typhus Fever	...	...	..	...	7
Smallpox	196	...	1	...	1
Continued Fever	2	...	2	1	2
Relapsing Fever	...	...	...	...	...
Puerperal Fever	22	22	18	18	19
Diphtheria	49	39	41	28	35
Membranous Croup	8	17	12	11	2
Erysipelas	144	169	210	171	184
English Cholera	...	2	...	1	...
Total	1597	805	833	710	1334

The table following shews the prevalence of Scarlet Fever in Bradford since 1870.

TABLE XXV.—Scarlet Fever.

YEAR.	No. of Deaths.	No. of Notifications.	Death-Rate per 10,000 living.
1870	241	...	16·93
1871	144	...	9·79
1872	81	...	5·53
1873	47	...	3·00
1874	289	...	17·72
1875	458	...	27·21
1876	143	...	8·23
1877	110	...	6·13
1878	156	...	8·42
1879	184	...	9·45
1880	190	...	9·64
*1881	118	(6 mos) 424	6·41
1882	66	408	3·29
1883	36	352	1·75
1884	33	493	1·54
1885	46	786	2·15
1886	89	1118	4·06
1887	98	1308	4·37
1888	33	407	1·43
1889	63	543	2·68
1890	46	546	1·91
1891	143	1163	6·59
1892	45	944	2·05
1893	71	1445	3·20
1894	72	1035	3·21
1895	25	379	0·11
1896	24	397	1·04
1897	9	331	0·38
1898	12	796	0·51

* First year of Notification.

TABLE XXVI.

Notifications, Deaths, and Death-Rate from Scarlet Fever at different Age Periods during 1898.

AGES.	Notifications.	Deaths.	Death-Rate per 100 notified.
Under 1 year	5	1	20·0
1 year and under 2	9	...	...
2 years ,, ,, 3	49	2	4·08
3 years ,, ,, 4	66	4	6·06
4 years ,, ,, 5	80	2	2·50
5 years ,, ,, 10	367	3	0·83
10 years ,, ,, 15	156	..	...
15 years and upwards	64	...	...
TOTALS	796	12	1·50

TABLE XXVII.

Shewing the number of Notifications from each Disease during 1898 *in the different Wards.*

WARDS.	Smallpox	Scarlet Fever.	Typhoid Fever.	Typhus Fever.	Diphtheria	* Erysipelas	* Puerperal Fever.	* M'br.an'us Croup	* Continued Fever.	TOTAL.
North	...	18	19	...	...	9	...	...	...	46
South	..	15	29	...	3	11	1	...	...	59
East	...	39	9	...	3	14	2	...	...	67
West	...	28	23	..	4	16	1	2	...	74
Listerhills	...	93	21	4	2	15	1	...	1	137
Great Horton	1	42	27	...	1	12	1	...	...	84
Little Horton	...	101	20	...	1	17	4	...	...	143
East Bowling	...	43	23	...	4	13	1	...	...	84
West Bowling	...	171	36	..	5	10	2	...	...	224
Exchange	...	8	5	...	...	3	...	...	...	16
Bradford Moor	...	26	28	3	...	19	1	...	...	77
Manningham	...	112	22	...	6	13	3	...	1	157
Bolton...	...	19	4	..	1	6	...	...	...	30
Heaton	...	48	9	...	4	7	...	...	...	68
Allerton	...	33	13	...	1	19	2	...	...	68
CITY TOTALS	1	796	288	7	35	184	19	2	2	1334

TABLE XXVIII.

Shewing the Death-rate per 1000, *in Bradford, and in each of its* 15 *Wards from Zymotic Diseases, and from all causes during* 1888—1898.

WARDS.	Seven Principal Zymotic Diseases.										All Causes.									
	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
North	3·0	3·5	1·7	2·2	3·4	1·4	2·1	1·1	2·6	2·3	21·7	24·9	25·1	21·6	23·4	19·0	17·1	20·7	18·8	19·9
South	1·8	2·6	2·0	2·1	4·4	2·0	3·7	3·3	6·2	4·5	23·3	25·9	25·3	20·6	25·1	18·9	25·2	19·6	23·5	20·1
East...	1·3	1·4	1·8	1·9	1·6	1·2	1·3	1·0	1·2	1·4	17·2	18·9	21·6	16·6	17·8	15·5	19·3	16·5	15·2	14·7
West	3·7	3·5	2·3	1·5	4·9	2·0	3·6	0·8	2·8	1·7	25·8	27·0	24·8	20 0	23·7	18·6	24·1	18·1	17·6	19·3
Listerhills ...	2.6	1·2	1·3	0·7	1·0	1·4	1·9	0·9	0·7	1·8	18·6	21·2	22·4	18·1	18·6	15·8	17·1	14·3	13·5	17·8
Great Horton...	2·3	0·7	2·7	1·3	2·7	1·5	1·9	1·6	1·7	1·6	18·7	19·0	20·4	17·9	17·5	16·9	19·2	17·2	16·0	17·1
Little Horton...	3·4	2·0	1·5	1·8	2·8	1·8	2·6	2·2	2·3	2·9	15·6	19·2	21·1	19·0	20·3	16·8	18·6	18·3	17·1	19·0
East Bowling..	2·3	4·0	2·5	1·4	3·9	2·9	3·2	2·4	2·3	3·5	23·4	24·1	24·5	17·6	20·3	18·7	22·6	19·9	20·2	20·4
West Bowling	4·1	1·4	2·0	1·8	4·5	1·8	2·4	1·6	2·1	2·7	18·9	18·8	21·9	11·4	21·4	18·3	21·3	18·0	18·0	18·9
Ezchange ...	4·6	3·2	1·1	2·5	3·0	1·9	2·3	1·3	3·6	1·7	26·1	28·3	19·4	20·8	22·2	16·0	19·3	19·8	25·5	18·0
Bradford Moor	2·1	2·0	2·1	1·1	2·8	2·1	3·6	1·6	2·6	1·6	20·6	20·4	24·6	17·2	20·3	17·4	20·3	16·6	19·2	19·2
Manningham ..	2·7	1·9	3·1	0·9	3·3	1·8	3·0	1·4	2·4	2·2	17·2	18·7	22·1	17·6	20·2	18·9	19·8	16·3	17·8	16·1
Bolton	1·5	1·9	0·7	2·0	2·6	1·0	1·5	0·4	1·3	0·7	14·4	17·9	15·3	14·3	19·7	14·5	14·8	11·8	12·8	12·5
Heaton	2·9	1·0	2·3	1·1	2·7	0·9	1·2	0·5	1·2	1·3	15·6	15·8	19·1	14·3	17·4	12·9	15·3	11·8	13·0	12·8
Allerton	1·9	1·1	1·7	1·0	3·2	1·3	1·9	1·3	1·0	1·6	14·8	16·6	18·4	15·7	21·2	12·4	16·4	14·1	15·6	14·4
CITY TOTAL ..	2·65	2·08	2·35	1·46	3·22	1·65	2.47	1·50	2·24	2·20	19·11	20·14	22·12	17·91	20·90	16·95	19·80	16·77	17·39	17·54

PHTHISIS.—In the Table following is shewn the number of deaths from Consumption; they amonnt to 382 in comparison with 372 for the previous year.

*TABLE XXIX.—Deaths from Phthisis.**

WARDS.	Quarters.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North	3	3	2	3	6	3	2	2	13	11	24
South	7	5	1	1	3	2	4	3	15	11	26
East	1	3	7	2	4	5	2	2	14	12	26
West	5	4	7	2	5	2	5	3	22	11	33
Listerhills	2	4	3	5	4	2	5	3	14	14	28
Great Horton ...	2	3	2	6	4	3	4	1	12	13	25
Little Horton ...	6	7	2	3	4	1	8	8	20	19	39
East Bowling ...	5	1	1	3	4	3	4	4	14	11	25
West Bowling ...	4	4	2	1	5	4	2	5	13	14	27
Exchange	3	1	3	1	2	1	5	2	13	5	18
Bradford Moor ...	6	4	2	6	7	2	1	2	16	14	30
Manningham ...	6	4	5	7	5	3	6	4	22	18	40
Bolton	3	...	...	1	1	...	1	...	5	1	6
Heaton ...	4	2	1	7	1	4	1	1	7	14	21
Allerton	3	3	2	1	2	1	1	1	8	6	14
CITY TOTAL ...	60	48	40	49	57	36	51	41	208	174	382

Ages at Death.

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
4	5	2	1	3	5	9	41	90	86	75	61	382

*Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XXX.

*Deaths from other Tuberculous Diseases.**

WARDS.	Tuberculous Diseases.		Tabes Mesenterica.		Hydrocephalus.		1898.		
	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North	2	5	...	...	...	...	2	5	7
South	4	5	1	2	1	...	6	7	13
East	3	...	2	1	...	...	5	1	6
West	8	5	4	3	1	...	13	8	21
Listerhills	5	3	1	1	...	...	6	4	10
Great Horton	3	2	...	...	...	...	3	2	5
Little Horton	6	4	...	...	...	...	6	4	10
East Bowling	1	5	...	1	1	...	2	6	8
West Bowling	8	4	...	...	...	...	8	4	12
Exchange	2	2	...	...	...	...	2	2	4
Bradford Moor	6	8	1	1	...	...	7	9	16
Manningham	6	5	1	1	...	1	7	7	14
Bolton	1	...	...	...	...	1	1	1	2
Heaton	7	6	1	...	...	...	8	6	14
Allerton	2	1	...	...	...	...	2	1	3
City Total	64	55	11	10	3	2	78	67	145

* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

Bronchitis, Pneumonia and Pleurisy.—These three chief diseases of the respiratory organs accounted for 739 deaths, 328 of which were those of children under 5 years of age. The respiratory death-rate was equal to 3·16 per 1000 of the population.

CANCER.—Table XXXI. gives the number of deaths attributed to cancerous or other forms of malignant growths.

TABLE XXXI.

Synopsis of Deaths from Cancer during the Years 1889-98.

	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Total No. of Deaths ...	137	129	142	159	129	146	182	182	188	208
Males	50	52	44	52	40	44	60	64	58	73
Females	87	77	98	107	89	102	122	118	130	135

Inquests.

Two hundred and sixty-three (263) inquests were held by the City Coroner during the year, 60 of which were on children under 5 years of age.

Uncertified Deaths.

The deaths of 50 persons were registered without certification by a Medical Practitioner or Coroner, being 1·2 per cent. of the total deaths, the average percentage of uncertified deaths for the 33 great towns being the same.

Disinfecting Station.

The following table sets forth the work done in connection with the Disinfecting Station during 1898.

HOUSES FUMIGATED 844

ARTICLES DISINFECTED:—

Beds	639	Trousers	45
Mattresses	239	Drawers	21
Pillows	986	Dresses	95
Bolsters	519	Petticoats	114
Blankets	827	Hose	32
Counterpanes	970	Dressing Gowns	7
Curtains	12	Shawls	179
Carpets	20	Cushions	65
Rugs	41	Mats and Sundries	1512
Coats	112		
Waistcoats	35	TOTAL	6470

Table A. shews that 851 new houses have been built during the year and certified as fit for habitation in accordance with the Bradford Waterworks and Improvement Act, 1875.

TABLE A.

Shewing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1890—98.

WARDS.	1890.	1891	1892.	1893.	1894.	1895.	1896.	1897.	1898.
North	9	...	64	43	8	11	2	17	16
South	104	104	69	35	16	1	6	11	79
East	77	20	49	98	54	45	26	66	138
West	3	...	3	4	9	...	...	6	2
Listerhills	173	72	30	17	13	3	48	31	11
Great Horton ...	67	59	37	53	106	134	70	173	196
Little Horton ...	15	40	42	4	19	21	33	1	12
East Bowling	31	61	48	60	78	15	18	45	114
West Bowling ..	187	98	59	103	115	58	72	49	78
Exchange	2	1	...	.	1	...	7	...	1
Bradford Moor ...	85	98	76	110	87	47	55	63	93
Manningham ...	130	125	116	148	44	67	94	55	14
Bolton	41	48	30	20	24	13	7	3	9
Heaton	98	31	35	65	18	34	10	36	31
Allerton	48	69	16	22	49	47	42	22	57
City Total ..	1070	826	674	782	641	498	490	578	851

Insanitary Dwellings.

The undermentioned houses were certified by me as unfit for habitation and ordered by the City Council to be closed in pursuance of powers vested in the Corporation by a private Act of Parliament :—

32, Wood Street
20, Marley Street
52, Shuttleworth Lane
2, Toby Lane, Great Horton

Also the undermentioned Cellar Dwellings :—

75, 34, 42, 50, 54, and 58, George Street;
15, 19, 21, 33, and 35, Lower William Court, Leeds Road;
8, Caine Place, Leeds Road;
33 and 51, Acre Street.

Insanitary Areas.

In September, I made a representation under Part I. of the Housing of the Working Classes Act, 1890. It was accepted by the Sanitary Committee but referred back by the Council for the consideration of some scheme to provide house accommodation for those who would be displaced by the demolition of the property contained in the area. A Sub-Committee formed for this purpose still has the matter under consideration.

REPORT

OF THE

CHIEF INSPECTOR OF NUISANCES.

To the Medical Officer of Health.

Sir,—The following statement shews the nature and amount of work done in the Sanitary Department during the year 1898, including an abstract of work carried out in the previous nine years.

Particulars of work done.	*No. of Cases.*									
	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Drains opened and cleansed ...	1356	1298	1429	1178	1236	1518	1573	1710	1757	1466
Drains provided for premises which had been previously without drainage	17	13	17	32	16	87	29	50	31	18
Sink Drains disconnected from the sewer or otherwise effectually trapped...	623	871	632	508	365	565	341	377	275	278
Street Gullies cleansed	2184	2867	3648	3602	4064	4831	4237	3927	5011	5247
Water Conductors provided and Down Spouts connected with the drain	1062	1251	1143	1127	947	1977	2105	1980	1856	1691
Swine and Swine Styes removed from objectionable situations	24	30	29	13	31	20	35	41	18	24
Fowls, etc., removed from dwellinghouses	162	219	114	127	87	144	113	90	70	83
Accumulations of Offensive Matter removed	479	596	689	399	257	317	409	497	513	509
Filthy Yards and Passages cleansed...	484	578	1099	561	481	955	753	808	560	559
Surface of Back Yards and Defective Pavement repaired	219	270	191	199	287	395	335	433	432	330
Defective Water Closets repaired	236	100	111	137	216	310	549	763	534	460

Particulars of work done.	*No. of Cases.*									
	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Stagnant Water removed from ashpits	495	376	345	286	285	419	292	295	335	231
Privies and Ashpits repaired and provided with suitable doors and covers	1177	957	779	924	964	1623	1698	1505	1428	1444
Foul Urinals repaired	32	35	20	13	46	32	47	73	33	33
Filthy Cellar Areas cleansed ...	80	81	84	74	57	85	79	80	53	57
Offensive Manure Pits removed	46	48	26	27	27	29	39	29	22	26
Defective Baths and Wash Basins repaired and disconnected from the drains ..	35	54	25	59	51	77	49	55	48	23
Privies and Ashpits removed from objectionable situations and water-closets erected in lieu thereof	370	391	265	196	2	291	40	67	...	305
New Water Closets erected ...	156	179	242	321	507	378	425	492	706	575
Stagnant Water drained off premises	130	132	92	83	132	190	238	166	195	147
Filthy Privies cleansed and lime-washed	1198	1167	1148	1026	1063	1365	1129	922	705	645
Houses and Cellar Dwellings whitewashed	295	283	237	258	254	341	203	165	220	170
Houses and Cellar Dwellings disinfected	639	532	1081	779	1979	1015	451	392	414	816
Houses closed as unfit for human habitation...	5	16	13	8	1	20	1	61	37	9
Cellar Dwellings closed as unfit for human habitation	15	11	18	9	1	16	...	2	4	14
Workshops closed as unfit for human habitation	...	...	...	...	...	...	3	...	...	1
General repairs of houses ...	42	34	29	42	36	78	149	56	61	79
Improvement and ventilation of premises by the removal of outbuildings, etc., from back yards	197	127	81	92	20	54	91	65	72	48
Abatement of Nuisances from over-crowding of houses, &c.	18	41	26	24	24	24	12	18	12	12
Foul Wells closed	..	...	...	2	...	2	2	6	2	1

Particulars of work done.	*No. of Cases.*									
	1889.	1890.	1891.	1892.	1893.	1894.	1895	1896.	1897.	1898.
Offensive businesses discontinued	2	...	2	2	1	...	...	...	...	...
Foul Mill Dams cleansed... ...	1	2	1	1	4	...	2	2	1	1
Rag Warehouses cleansed ...	2	6	...	4	2	2	2	4	4	6
Tripe Boilers' premises inspected	209	88	107	86	112	243	44	475	431	388
Fellmongers' premises iuspected	194	10	24	34	12	20	12	21	14	16
Houses inspected where infectious diseases have occurred ..	563	522	1148	1031	2606	2670	709	724	637	1139
Bakehouses inspected	11	33	62	43	34	25	28	24	347	359
Mills and Workshops Closets inspected	...	...	1613	269	140	509	349	357	534	790

The above particulars represent only those cases where Statutory Notices have been served, and do not include nuisances prevented or abated on the verbal request of the Inspector.

The number of persons summoned for non-abatement of nuisances after Notices given is 15, as against 69 the previous year.

Night Scavenging.

The number of ashpits reported as having been emptied during the year is 102,318, viz., from January 1st to July 15th, under the old contract, 55,889 ashpits were emptied; 2,915 loads of soil and 41,833 loads of rubbish were removed, or a total of 44,748 loads.

From July 16th to December 31st, 46.429 ashpits were emptied by the Corporation; 777 loads of soil and 29,119 loads of rubbish, or a total of 29,918 loads were removed.

No. of ashpits emptied during the year 102,318.
Loads of soil removed, 3,714.
Loads of rubbish removed, 70,952.
Total number of loads removed, 74,666.

Burial Grounds.

During the year 181 visits have been made by the Sanitary Officers to the various graveyards within the city, but no irregularities have been observed.

Owing to the alterations which are being carried out at Rawson Place Market, by an order of the Home Secretary the remains of 165 persons, viz, 140 adults and 25 infants, have been removed from that portion of the uncovered market next James Street, and which originally formed part of the graveyard attached to the Kirkgate Wesleyan Methodist Chapel, and the same were re-interred at Bowling Cemetery under the control and supervision of the Medical Officer of Health and Sanitary Officers.

Dangerous and Unfenced Places.

Two hundred and sixty-one places, including houses and other buildings, have been reported by the Sanitary Officers as being in a dangerous condition. These have been dealt with and made secure from personal danger, either under the direction of the City Surveyor or the Chief Inspector of Nuisances.

Public Urinals.

The number of Public Urinals within the City is 40, being one less than last year. The Public Urinal at Allerton Road on land belonging to Mr. C. Hardy having been removed for building purposes and no other site has yet been found on which to re-erect the same.

The rest of the Urinals are in a good state of repair.

Canal Boats.

There is only one Canal Boat registered within the City, and this, along with 190 others registered with other Authorities, but plying on the Canal within the City, has been examined by

the Chief Inspector of Nuisances or by his Assistant, and their general condition, having special regard to proper ventilation and storage of water, has been found satisfactory.

In nine cases the boats were found to be defective and water leaking into the cabins. 2 boats were found to be without certificates of registration as required by the Act, and 2 boats' certificates of registration were not produced when requested by the Inspectors. One boat was found to be totally unfit for human habitation and legal proceedings were instituted against the owner and master of the boat resulting in a penalty of £1 and 11s. costs against the owner or 11 days imprisonment. The master was acquitted on payment of 7s. costs. The owner and master of 1 boat found to be plying on the Canal without being registered were proceeded against and a penalty of 10s. and 11s. costs were inflicted against the owner. The charge against the master was dismissed on payment of 7s. costs.

The owners of the other defective boats were formally notified by the Chief Inspector of Nuisances to have the boats thoroughly repaired and provide certificates where required, and in future to conform strictly with the regulations, and accordingly the whole of the necessary repairs have since been carried out, and the necessary certificates obtained.

Common Lodging Houses.

The number of Common Lodging Houses within the City is 41, the same as last year.

The houses contain 195 rooms for sleeping purposes, and are registered to accommodate 1913 persons nightly.

The number of persons who have been accommodated during the year is 433,486, the nightly average being 1187.

The number of visits paid by the Sanitary Officers to these houses during the year is 1978, and their reports shew the houses to have been fairly well conducted.

Adulteration of Food and Drugs.

During the year ending December, 1898, 286 samples of food and drugs have been submitted to the City Analyst by the Food and Drugs Inspector. Of these 272 have been certified by the Analyst as pure, and 14 have been found to be adulterated. One of these was a sample of coffee, which contained 40 % of chicory, and proceedings were taken in this case, resulting in a penalty of 5/- and costs. Proceedings were also instituted in a milk of sulphur case, the defendant having to pay costs only, as this was the first case of its kind in the city under the new or 1898 section of the B P. A sample of "Scotch whiskey" was certified to be 4·6° U.P. below the standard fixed by the Act; the vendor in this case was cautioned by letter. Two samples of baking powder have been certified to be adulterated with 36.50 and 36.75 % of alum respectively, but, it having been decided in a previous case that baking powder is not a food "within the meaning of the Act," the cases were allowed to lapse. In the remaining cases of the 14 above-named, the amount of adulteration was too small to warrant further proceedings.

The Food Inspector seized and destroyed 43 bags of cockles, 66 bags of mussels, 8 boxes of haddocks, 1 small box of bacon, 330 lbs. of mushrooms, 25 couples of rabbits, 31 boxes of kippers, 4 bags of pickled shrimps, 72 pots of shrimps, 18 pots of lobster, 3 barrels of apples, and 7 kegs of pears.

The following table shews the nature of articles submitted for analysis:—

REPORT for Year ending December, 1898.

NATURE OF FOOD.	Samples submitted.	Pure.	Adulterated.	Proceedings taken	Cautioned.
Milk	202	200	2	..	...
Butter	26	24	2	...	...
Flour	4	4	...	...	...
Tincture of Rhubarb ..	2	2	...	..	...
Lard	3	3	...	...	...
Yeast	5	5	...	...	...
Coffee	6	4	2	1	...
Meadow Sweet Cheese ..	1	1	...	...	...
Seidlitz Powders	2	2	...	...	...
Tinned Peas	1	...	1	...	...
Tartaric Acid	2	...	2	...	...
Cream of Tartar	6	5	1	...	...
Preserved Fruit	1	1	...	..	...
Malt Vinegar	5	5	...	...	...
Sweet Spirits of Nitre ...	2	2	...	...	...
Spirits of Sal Volatile ...	1	1	...	...	...
Ground Ginger	2	2	...	...	...
Tea	3	3	...	...	...
Chewing Gums	2	2	...	...	...
Pepper	1	1	...	...	...
Fancy Sweet Cake ...	1	1	...	...	...
Scotch Whisky	4	3	1	...	1
Milk of Sulphur	2	1	1	1	...
Baking Powder	2	..	2	...	...
TOTALS	286	272	14	2	1

Dairies, Cow-sheds, and Milk-shops.

There are at present registered under the Contagious Diseases (Animals) Act, 1878, 248 cow-sheds and 1109 dairies, milk-shops, and purveyors of milk, as against 244 and 1088 respectively last year.

During the year 46 applications have been made for registration of premises for the sale of milk, and upon inspection of the same by the Medical Officer of Health or the Dairies and Cowsheds Inspector, 43 of these were found to be suitable, and were registered accordingly.

Inspection has frequently been made as heretofore of the milk and milk vessels coming into the city by rail and otherwise from places beyond the city boundaries, and numerous samples thus delivered have been taken by the Food Inspector, and the results, with few exceptions, shew the milk to have been genuine and of good quality.

Six milk dealers whose vessels were found to be in a dirty condition were formally warned.

The Committee as heretofore have inspected a number of cow-sheds and milk-shops, and, where the sanitary condition thereof was found to be defective, instructions were given for the issuing of notices, requiring the requisite improvements to be carried out, and the same are now in progress.

Special attention has again been paid to the fried fish shops and ice cream makers' premises within the city, and many improvements have been effected in regard to cleanliness and general condition of these places, and in the manipulation of the commodities produced thereat.

The number of visits and inspections made by the officers has been as follows:—Cow-sheds 869, milk-shops 2,534, milk vessels 1576.

Inspection of Meat, Slaughterhouses, Potted Meat and Sausage Manufactories.

During the year there have been 36 seizures and 138 surrenders of unsound meat, fish, and fruit.

There have been seized and destroyed 1,900 lbs. of beef, 79 lbs. of mutton, 550 lbs. of pork, 100 lbs. of veal, 42 boxes of Finnon haddocks, 19 boxes of kippers, 9 bags of cockles, 5 bags of mussels, 3 boxes of haddock, 40 boxes of herrings, 5 boxes of cod-fish, 20½ couples of rabbits, 30 bundles of celery, 12 sets of beast's offal, 1 box of sheep's offal, 2 bags of whelks, 40 boned hams, 1 box of halibut, 1,800 bloaters, 1 ton of fish, and 169 Egyptian quail.

There have been surrendered and destroyed 15,700 lbs. of beef, 2,820 lbs. of mutton, 3,730 lbs. of pork, 400 lbs. of veal, 49 boxes of Finnon haddock, 162 boxes of kippers, 52 bags of cockles, 69 bags of mussels, 40 boxes of haddock. 4 boxes of mackerel. 13 boxes of herrings, 10 boxes of cod-fish, 76 couples of rabbits, 10½ baskets of shrimps, 20 bags of oysters, 2 bags of tripe, 5 boxes of kidney, 2 boxes of sweetbread, 55 baskets of mushrooms, 1 basket of tripe, 1 bag of offals, 1 box of lamb offals, 13 cases of frozen rabbits, 10 tons of turnips, and 29 baskets of potatoes.

The above seizures and surrenders are exclusive of those made by and specified by the Food and Drugs Inspector.

The number of slaughterhouses under the old regulations remains the same as last year, viz. 7, and there are four others for which licences have to be applied for annually.

The number of places at which potted meat and sausages are made is 90, as against 81 last year, and these, together with the private slaughter-houses, are regularly visited and reported upon by the Inspectors.

The number of visits made during the year has been as follows:—Private Slaughter-houses, 358; Potted Meat and Sausage Works, 1240. The Public Abbatoirs are visited daily.

Cattle Disease.

During the year there have been three outbreaks of Swine Fever within the City, viz., one on the premises of Thomas Newton at Dundas Street; one on premises at 263, Wakefield Road, in the occupation of John Watson, and one at Usher Street on the premises of John Hudson. An outbreak of Anthrax occurred on the farm premises at Little Horton Green in the occupation of Mr. Philip Wright, one cow out of a herd of about 20 cattle being affected with the disease, all of which were duly notified by the Sanitary Department to the Board of Agriculture whose officers took charge both of the infected animals and premises and also gave customary notices to the respective owners and occupiers as required by the Orders in Council.

"Shop Hours Act":—Workshops and Bakehouses.

The number of shops visited by the Inspector under the "Shop Hours Act" during the year is 1405. In 1051 of these shops young persons under the age of 18 were found to be employed, and 312 of these shopkeepers failed to comply with Section 4 of the Act by not exhibiting the necessary notice stating the number of hours which a young person may be employed in a shop.

Nineteen young persons were found to have been employed for a period exceeding 74 hours in one week.

Eighteen young persons were found employed in shops, having previously on the same day been employed in a factory or workshop for the full number of hours allowed by the "Factory and Workshops Act."

Eight persons were summoned and convicted for offences against the Act. In one case the defendant was fined the maximum penalty of 40/- and 11/- costs. Total penalties and costs amounted to £7 7s.

Workshops and Bakehouses.—The Shop Inspector also visited 932 workshops and 359 bakehouses. 196 workshops were found without regulations; these were duly notified to Her Majesty's Inspector of Factories and Workshops.

The following is a summary of work done and sanitary defects remedied:—

Dirty Workshops limewashed and cleansed	123
Dirty Bakehouses ,, ,, ,,	34
Workshops without closet accommodation ...	12
Workshops with insufficient closet accommodation	3
Workshops without separate closet accommodation for the sexes	32
Defective Water-closets	14
Dangerous Places in and adjacent to Workshops	10
Gas Stoves in Workrooms without means provided to carry off the fumes... ...	8
Underground Bakehouses closed	7
Workshops closed	1
Gullies removed out of Bakehouses	8

A large number of workrooms and bakehouses have also been provided with additional ventilation.

Yours obediently,

JAS. CHAMBERS,

Chief Inspector.

REPORT

OF THE SUPERINTENDENT OF THE

ASHPIT CLEANSING AND DESTRUCTORS DEPARTMENT.

To the Medical Officer of Health.

Sir,—I beg to submit the following report of work done in the above Department, during the year 1898.

Ashpit Cleansing Department.

The contract with Messrs. Greenwood Brothers for the emptying and cleansing of Privies and Ashpits within the City expired on the 15th of July, 1898, and on the evening of that day your Committee undertook the work in accordance with a resolution passed by the Council on the 11th of January, 1898.

The collection of refuse is now carried out in a systematic manner. The City is divided into four sections, and each section into 60 sub-sections, each consisting of one night's work. So far the system carried out has worked well.

Fifteen horses were purchased to start with, the remainder being hired from local team owners. Unfortunately the whole of the horses suffered from influenza and one died. The remainder recovered and are now working and in good health.

Temporary stabling at Harris Street was rented from Mr. Parkinson, pending the execution of the alterations and repairs to the Corporation Stables at the Hammerton Street Depot. At the last-named place the drains, floors, &c., have been thoroughly repaired, and every part of the premises has been thoroughly cleansed and painted or whitewashed. A new Hay-Chopper and a Corn-Crusher have been purchased, and

also a Horse Food Boiler. The Gas Engine has been removed and the machinery is now being driven by steam from the Destructor.

The working plant at the present time consists of 14 horses, 25 carts made by local wheelwrights and 14 purchased from Messrs. Greenwood Brothers, 2 large four-wheeled vans, 1 lurry, 31 sets of gears, and a quantity of miscellaneous tools and implements.

Two small corrugated iron buildings have been removed from Scholemoor Hospital, and fixed at Hammerton Street Depot for use as store sheds in connection with this Department.

From the 16th of July to the 31st of December, 1898, 49,866 Ashpits have been cleansed, and 32,964 loads of refuse removed therefrom.

Destructor Department.

The following is a Report of the work done at the various Destructors during the year 1898:—

HAMMERTON STREET.

The number of loads of refuse destroyed is as follows;—

Ashpit Refuse	24,976	loads
Market ,, ...	1,345	,,
Shop ,, ...	1,878	,,
Total	28,199	,,

As against a total of 20,638 loads destroyed last year.

There has also been destroyed the carcases of 22 beasts, 11 calves, 15 sheep, 61 pigs, 1 goat, 1,250 dogs, 195 cats, 152 beds, 422 mattresses, 336 hares, 11 turkeys, 1 box and 10 shoulders of bacon, 1 horse, 33 bags of cockles and 79 bags of mussels, 4 fowls, 23 couples and 1 hamper of rabbits, 6 boxes of lemons, 2 cases of black game, 6 bags and 7 cases of oysters, 54 stones of beef, 12 boxes and 20 barrels of herrings, 2 boxes

of mackerel, 94 boxes of kippers, 1 case of eggs, 2 boxes of shrimps, 22 boxes of haddock, 11 tons of turnips, 5 boxes of kidneys, 2 boxes of sweetbreads, 12 sets and 1 box of offal, 50 cows' feet, 30 stones of cows' bags, 8 boxes of codling, 11 boxes of fish, 30 baskets and 1 load of gooseberries, 7 pillows, 100 boxes of figs, 18 stones of pork, 3 barrels of apples, 2 loads of old books, 2 sheets, 24 bags of potatoes.

4230 tons of mortar and 3039 loads of clinker have been sold during the year, as against 5060 tons and 3450 loads last year.

The New Destructor Cells erected by the Horsfall Furnace Syndicate continue to give every satisfaction.

In accordance with an Agreement made between the Corporation and Messrs. Currie and Rowlands, of Liverpool, the Corporation took over the Fish Manure Plant erected at Hammerton Street from the 7th of November last, and this work will now be carried on by the Destructors Department.

A new Clinker Crushing and Screening Machine has been erected at these works.

A Contract has been entered into with Messrs. C. and A. Musker, of Bootle, Liverpool, to supply and erect Hydraulic Machinery for the purpose of making concrete paving slabs.

Instructions have also been given to invite tenders for a considerable addition to the Electric Lighting Installation at these works. It is intended to light up the whole of the stables, &c., and also to erect Arc Lamps facing Hammerton Street and Birksland Street.

A new mechanics' shop has been fit up during the year, and considerable alterations have been made in the Blacksmith's and Waggon Repairing Shops.

The whole of the residuals at this Destructor continue to be utilized in some form or other.

SUNBRIDGE ROAD.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	17,657	loads
Market ,, ...	569	,,
Shop ,, ...	429	,,
Total ...	18,655	loads

As against a total of 17,691 loads last year.

There has also been destroyed the carcases of 2 beasts, 1 calf, 2 sheep, 5 pigs, 5 dogs, 23 beds, 177 mattresses, 186 stones beef, 115 stones meat, and 20 stones hams.

891 tons of mortar have been sold as against 1,330 tons last year.

Owing to the breakdown of the steam engine, the making of mortar has been temporarily discontinued at these works. Plans have been submitted and approved of by the Committee for the erection of a mortar mill shed and engine house on the vacant ground facing Sunbridge Road. The present mortar pan will be removed and an additional one procured, and it is expected that a considerable portion of the clinker made at these works will then be utilized.

Instructions have also been given for an installation of Electric Light to be made at these works.

SOUTHFIELD LANE.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	11,177	loads
Shop ,, ...	2	,,
Total	11,179	loads

As against a total of 11,072 loads last year.

There has also been destroyed the carcases of 2 calves, 4 sheep, 1 donkey, 19 pigs, 7 dogs, 2 cats, 16 beds and 113 mattresses.

A proposal for the re-building of this Destructor is now receiving consideration.

During the construction of the Great Horton Tramway, a considerable amount of clinker from this Destructor has been made use of.

CLIFFE ROAD.

The number of loads of refuse destroyed is as follows: -

Ashpit Refuse	15,018 loads
Market ,, ...	364 ,,
Shop ,, ...	303 ,,
	15,685 loads.

As against a total of 16,653 loads last year.

There has also been destroyed the carcases of 1 sheep, 15 dogs, 9 cats, 1 donkey, 8 beds, and 64 mattresses.

876 tons of mortar have been sold as against 1,513 tons last year.

The erection of the Clinker Crushing Machine has been completed, and 2,008 loads of screened clinker have been sold during the year.

The whole of the Residuals at this Destructor are now being utilised in some form or other.

The Electric Lighting Installation, the Mortar Pans, and the Clinker Crushing Machinery are giving every satisfaction.

SUMMARY.

The total number of loads of refuse destroyed at all the four Destructors is as follows:—

Ashpit Refuse	68,828	loads
Market ,, ...	2,278	,,
Shop ,, ...	2,612	,,
Total	73,718	,,

As against a total of 66,054 loads last year.

5,997 tons of mortar, and 5047 loads of screened clinker have been sold during the year, as against 7,903 tons and 3,450 loads last year.

JOHN McTAGGART.

REPORT

OF

BACTERIOLOGIST.

Year ending June 30th, 1899:—

	CASES.
Milk for Tubercular Infection	17
Throat Swabs for Diphtheria	22
Blood for Anthrax	5
Blood for Typhoid	2
Sputum for Tuberculosis	1
	47

F. W. RICHARDSON.

THE CITY HOSPITAL FOR INFECTIOUS DISEASES.

During the year 1898, 760 patients were admitted into this Hospital, which, together with 35 remaining at the end of the previous year, constitute the total number which have been under treatment.

The cases of Scarlet Fever admitted amounted to 556, only 7 of which had a fatal termination.

There were 162 cases of Enteric Fever admitted, 21 of which ended fatally.

Of other diseases, including Typhus Fever, Diphtheria, and Erysipelas, 42 were admitted, 16 of which proved fatal.

The following tabular statements give more detailed information :—

TABLE A.—General Statement.

Remaining in Hospital 31st December, 1897	35
Admitted during 1898	760
	795
Discharged, relieved, or cured	613
Died	44
Remaining in Hospital 31st December, 1898... ...	138
	795

TABLE B.—SCARLET FEVER.

Shewing Admissions, Deaths, and Percentage Fatality for the year 1898.

AGE.	MALES.		FEMALES.		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death-Rate.
Under 1	1	...	...	...	1	...	...
1 —2	...	...	2	..	2	...	...
2 —3	22	1	13	...	35	1	2·8
3 —4	17	...	20	...	37	...	...
4 —5	30	2	20	...	50	2	4·0
Total under 5	70	3	55	...	125	3	2·4
5—10	135	1	141	3	276	4	1·4
10—15	58	...	54	...	112	...	...
15—20	12	...	12	...	24	...	...
20—25	4	...	8	..	12	...	..
25—30	...	...	3	..	3	...	...
30—35	1	...	3	...	4	...	...
TOTAL ...	280	4	276	3	556	7	1·2

TABLE C.—ENTERIC FEVER.

Shewing Admissions, Deaths, and Percentage Fatality for the year 1898.

AGE.	MALES.		FEMALES		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death Rate.
Under 5		...	2	...	2	..	...
5—10	14	...	12	.	26	...	...
10—15	20	1	10	1	30	2	6.6
15—20	15	3	9	...	24	3	12.5
20—25	17	2	12	1	29	3	10.3
25—30	7	3	14	3	21	6	28.5
30—35	4	2	10	...	14	2	14.2
35—40	2	1	3	...	5	1	20.0
40—50	2	1	5	2	7	3	42.8
50—60	3	1	...	...	3	1	33.3
60—70	1	...	...	...	1	...	...
TOTAL	85	14	77	7	162	21	12.9

TABLE D.

Shewing Number of Cases admitted during each month of 1898.

1898.	Scarlet Fever.			Enteric Fever.			Other Diseases.			Total Admissions.		
Months.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total.
January ...	8	13	21	9	5	14	1	1	2	18	19	37
February ...	11	9	20	2	4	6	2	1	3	15	14	29
March ...	13	9	22	1	3	4	2	3	5	16	15	31
April	9	12	21	2	3	5	2	2	4	13	17	30
May	17	19	36	2	...	2	1	...	1	20	19	39
June	12	17	29	1	3	4	3	1	4	16	21	37
July	16	16	32	3	4	7	1	3	4	20	23	43
August ..	27	23	50	5	6	11	...	1	1	32	30	62
September ...	39	44	83	12	6	18	1	2	3	52	52	104
October ...	48	36	84	18	21	39	1	5	6	67	62	129
November ..	38	46	84	22	18	40	1	3	4	61	67	128
December ..	42	32	74	7	5	12	3	2	5	52	39	91
TOTAL ...	280	276	556	84	78	162	18	24	42	382	378	760

The following Deaths occurred from Diseases other than those specifically mentioned in the foregoing Tables :

DISEASES.	NO OF DEATHS.
Typhus Fever	2
Pneumonia	4
Diphtheria	4
Meningitis	3
Erysipelas	1
Cancer	1
Measles	1
TOTAL	16

SUMMARY.

Year.	Smallpox.			Enteric Fever.			Scarlet Fever.			Other Diseases.			Totals.			From 1872 to 1898.	
	Cases.	Deaths.	Death-rate per 100	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Aggregate No. of days spent in Hospital.	Average No. of days for each Patient.
1872	63	6	9·5	48	9	18·7	14	...	...	37	6	16·2	162	21	13·01	4,546	28
1873	94	15	16·0	54	16	29·7	19	1	5·2	36	7	18·9	203	29	14·28	6,211	30½
1874	249	48	19·27	51	11	21·56	58	6	10·34	53	12	22 6	412	76	18·44	11,715	28½
1875	20	2	10·0	44	6	13·59	103	19	18.4	37	3	8·1	204	30	13·59	6,275	30¾
1876	12	...	..	40	5	12·5	35	9	26·0	26	5	19·2	113	19	18·8	2,876	27¼
1877	19	4	21·05	65	13	20·0	72	9	12·5	27	8	29·6	183	34	18·5	5,579	31½
1878	5	1	20·0	55	13	23·6	148	17	11·5	27	3	11·1	237	34	14·3	9,263	39
1879	8	...	...	24	3	12·5	159	14	8·8	23	4	17·39	214	21	9·8	8,414	39
1880	2	1	50·0	60	8	13·3	248	38	15·3	54	7	12·9	364	54	14·8	13,192	36¼
1881	21	2	9·5	61	7	11·5	317	42	13·2	27	..	...	426	51	11·97	16,073	37¾

1882	26	3	8·8	88	17	19·3	213	31	14·5	39	5	12·8	366	56	15·32	14,766	40
1883	5	...	...	119	17	14·2	233	17	7·2	23	2	8·6	375	36	9·6	15,949	42½
1884	3	...	...	93	17	18·2	237	11	4·6	29	4	13·7	362	32	8·8	14,215	39⅓
1885	28	2	7·14	89	6	6·74	456	19	4·16	23	8	34·7	596	35	5·89	21,391	36
1886	4	...	...	83	8	9·63	625	29	4·64	14	2	14·3	726	39	5·37	29,305	40⅓
1887	3	...	...	79	7	8·86	830	21	2·27	9	5	55·5	921	33	3·58	38,609	42¼
1888	16	2	12·5	57	6	10·53	283	12	4·24	11	1	9·9	367	21	5·72	16,479	46
1889	9	1	11·11	90	26	28·89	355	40	11·27	36	6	16·67	490	73	14·90	21,315	43½
1890	...	...	...	59	11	18·64	380	22	5·78	43	12	27·90	484	45	9·30	19,940	41¼
1891	...	...	...	76	15	19·6	780	83	10·6	39	10	25·6	897	108	12·04	39,838	44
1892	25	4	16·6	41	11	26·8	587	27	4·6	32	7	21·8	685	49	7·2	29,191	42½
1893	935	100	10·6	11	4	36·3	228	17	7·8	12	1	8·3	1186	122	10·2	34,203	28·8
1894	...	...	...	42	8	19·0	525	30	5·7	16	...	...	583	38	6·5	27,124	46·5
1895	...	...	...	97	20	20·6	250	16	6·4	28	9	32·14	375	45	12·0	17,331	46·21
1896	...	...	...	77	15	19·4	248	14	5·6	21	6	28·5	346	35	10 1	17,368	50·1
1897	...	...	..	74	11	14·8	226	5	2·21	17	8	47·05	317	24	7·5	14,549	45·8
1898	...	...	...	162	21	12·9	556	7	1·2	42	16	38·09	760	44	5·8	35,112	46·2

APPENDIX.

BRADFORD UNION.—Vaccination Report for the Year 1897.

ABSTRACT OF RETURNS made on the 8th day of February, 1899, by the Vaccination Officers of the Bradford Union, respecting the Vaccination of Children whose Births have been Registered from January 1st, 1897, to December 31st, 1897, inclusive.

Registration— Sub-Districts.	Number of Births registered from 1st Jan., 1897, to 31st Dec., 1897.	Number of these Births duly entered by 8th February, 1899, in "Vaccination Register."					Per centage of cases finally accounted for to total Births.	Number of these Births which on 8th Feb., 1899, remained unentered in the "Vaccination Register" on account (as shewn by Report Book) of				All cases not accounted for in preceding columns.
		Col. 10. "Successfully Vaccinated."	Col. 11. "Insusceptible of Vaccination."	Col. 11. Conscientious Objections.	Col. 13. "Dead Unvaccinated."	Total duly entered in the Register as finally accounted for.		Postponement by Medical Certificate	Removals and Cases not found.			
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Bowling ...	955	460	5	15	119	599	62·72	12	32	...	...	312
2. Bradford East	1774	817	1	...	312	1130	63·69	23	193	...	...	428
3. Bradford West	1418	621	2	14	203	840	59·23	...	96	...	...	482
4. Horton	1213	455	2	17	157	631	52·02	7	53	...	...	522
TOTAL	5360	2353	10	46	791	3200	59·70	42	374	—	—	1744

CITY OF BRADFORD.

REPRESENTATION

UNDER THE

Housing of the Working Classes Acts,

MADE BY THE

Medical Officer of Health

To the Insanitary Areas Sub-Committee.

(Ordered to be printed August 8th, 1898.)

BRADFORD:
HENRY GASKARTH, PRINTER, SUNBRIDGE BUILDINGS

1898.

CITY OF BRADFORD.

At a Meeting of the Insanitary Areas Sub-Committee, held at the Town Hall, Bradford, on Monday, August 8th, Alderman J. W. Jowett in the Chair,

It was Resolved—

That the report submitted by the Medical Officer of Health as to an Insanitary Area in the Longcroft Place District be printed and a copy supplied to each Member of the Sanitary Committee.

Extracted from the proceedings of the said Sub-Committee.

GEORGE McGUIRE,

Town Clerk.

REPRESENTATION

BY THE

MEDICAL OFFICER OF HEALTH.

Mr. Chairman, Gentlemen,

The Sanitary Committee on 19th May, 1897, adopted a report by the Sub-Committee on Insanitary Areas, in which there was a recommendation that certain districts, viz. :—"Longlands Street, Longcroft Place, the district of Wapping, and many of the streets on the South side of Leeds Road" should be dealt with under the provisions of the Housing of the Working Classes Act.

I beg now to make an official representation in respect of the first-named, viz. :—Longlands Street and Longcroft Place, but include also some adjoining Streets, the extent of the area comprised in this representation being as follows, viz. :—the whole of Longlands Street, Longcroft Place (except three houses), Garden Place, Bell Street, Turk Street, One Street ; the greater part of Chain Street ; parts of West End Street, Grattan Road, St. Thomas' Road, and Roundhill place.

This area is situate in the West Ward, and its extent as shown on the accompanying plan is 4 acres, 2 roods, 28 perches, and 23 square yards, or 22,650 square yards.

The total number of houses contained in it is 284, consisting of 254 private dwelling-houses, 10 lodging-houses, 2 public-houses, 16 houses and shops combined or lock-up shops,

1 bakehouse, and 1 store-room. The population living in these houses amounts to 1,357, giving an average of 4.8 persons per house.. The density of the population is 301 persons per acre as compared with 21 persons per acre for the whole City.

The death rate from all causes in this area was in

1895	-	45.6	per 1,000.
1896	-	42.7	"
1897	-	41.2	"

For the purposes of my representation I divide the district into two parts, the sanitary condition of one being worse than that of the other. The first part consists of Longlands Street, Longcroft Place, Garden Place and the North East side of Chain Street. I am of the opinion that some of the houses In this part of the area are unfit for habitation, and that the narrowness, closeness, and bad arrangement of the streets and houses, the want of ventilation and proper sanitary conveniences, are dangerous to the health of the inhabitants of the buildings, and I am further of opinion that the evils connected with these houses and the sanitary defects of the area cannot be effectually remedied otherwise than by an improvement scheme for the rearrangement and reconstruction of the streets and houses within this area. This part of the district contains about three-quarters of the total area referred to and includes 209 houses.

The second part of the area consisting of Bell Street, Turk Street, One Street, the South West side of Chain Street, and parts of West End Street, Roundhill Place and Grattan Road, I do not consider in need of demolition but of such improvement as will serve to give better closet accommodation, although to provide such accommodation it will be necessary to remove some of the houses.

In the event of your accepting my report and deciding to formulate an improvement scheme under Part I. of the Housing of the Working Classes Act, the consideration as to how you would deal with this part of the area may perhaps be left to some future date and dealt with under Part II. of the Act, the provisions of which are intended to apply to single houses rather than to larger areas.

The whole area is shown on the accompanying plan.

In the Appendix will be found detailed information of the Condition of the property included in the representation, together with a Chemical and Bacteriological examination of the air taken from some of the houses.

Believe me, Mr. Chairman and Gentlemen,

Yours obediently,

W. ARNOLD EVANS.

APPENDIX.

Summary of Streets, Houses and Population.

Street.	Houses.							Population.
	Private Dwelling Houses.	Lodging Houses	Public Houses.	House and Shop or Lock-up-Shop	Bakehouse.	Storeroom.	Total Houses.	
Longlands Street -	53	10	2	3			68	386
Longcroft Place -	105			3	1	1	110	466
Garden Place -	6						6	25
Chain Street -	35			2			37	201
Grattan Road -	7			3			10	23
Bell Street - -	10						10	45
Turk Street - -	13						13	76
One Street - -	14						14	58
West End Street -	7						7	41
Roundhill Place -	2			1			3	14
St. Thomas Road -	2			3			5	22
Providence Street -				1			1	
	254	10	2	16	1	1	284	1,357

LONGLANDS STREET.

Total Buildings :—68 : constituted as follows :—

Dwelling-Houses - - -	53
Lodging-Houses - - -	10
House and Shop combined or Lock-up Shop -	3
Public Houses - - - -	2

Fourteen out of the 53 dwelling-houses are not wholly let to one tenant but divided into 34 tenements and let as "furnished rooms."

The average width of this street is 15 feet 10 inches, and in half its length it is not divided by any cross streets, a condition which renders effective ventilation an impossibility.

CONDITION OF HOUSES :—

Walls, Roof, &c. The walls of some dwellings are considerably bulged outwards ; many more require pointing. Dampness is noticed in some and in one instance the house wall adjacent to an ashpit and privy is described as "very damp." The roofs are defective in some cases but very fair in many.

Ceilings, floors, and staircases. The majority of houses are stated to be in fair condition but many are dilapidated and in a shaky state. Some window frames are broken, and nearly all cellars are wet.

Number of Rooms.

47	Houses	each	contain	2	Rooms.
5	"	"	"	3	"
7	"	"	"	4	"
2	"	"	"	5	"
3	"	"	"	6	"
4	,	"	"	7	"

Drainage. Some houses which contain slopstones have no sink waste, which in nearly every case when present requires disconnection from the drain. To some houses there is no eaves spouting. In the matter of drainage the Registered Lodging-houses are far superior to private dwelling-houses.

Surroundings. There is no yard space belonging to any house in this street, the houses having been built mostly in continuous rows, but here and there one has been removed to supply space for the erection of privies and ashpits. Many of the houses on the North East side are contiguous to the soil of Baptist Chapel Graveyard, moisture from which percolates through the foundations and renders the floors damp. The ashpits ahd privies are inconveniently placed, and generally built up to the housewall or gable end.

Closets. It appears as if no closet accommodation was originally provided, but a few houses have since been demolished and closets erected on the space thus made ; the inhabitants of some of the houses have therefore to traverse a considerable part of the street in order to reach the closets, whilst others live unpleasantly near to them. Although in some few instances each house has its own privy or water closet, it is the rule for one privy or water closet to be used in common by the occupants of three houses. The result of such an arrangement can be better imagined than described, for the condition of the privies is usually as disgusting as it is possible for human beings to make them. Some five houses in the street are without privy accommodation, the closets having been removed by street improvement operations.

Population. 386.

Average No. of people per house	-	5·5
Average No. of people per closet	-	15

Total death rate.

In 1895	was	62·1	per	1,000
„ 1896	„	69·9	„	1,000
„ 1897	„	36·2	„	1,000

LONGCROFT PLACE.

Total Buildings :—110 constituted as follows :—

Dwelling-Houses - -	105
House and Shop combined -	3
Bakehouse - - -	1
Storeroom - - -	1

Five of these houses are cellar dwellings, one of which is used as a Muffin Bakery. The average width of this street is 23 feet, and most of the houses are so situate as to form *cul de sacs*, at the blind end of which the Sanitary conveniences are placed,

CONDITION OF HOUSES :—

Walls, Roof, &c. Examples of every condition from that of good repair to complete ruin are to be found ; the majority of houses appear to be in fair condition, although in some the walls are distinctly leaning.

Ceilings, floors, and staircases. These are in fairly good condition in about thirty houses, but in the remainder there is evidence of either long continued neglect or wanton destruction.

Number of Rooms.

77	Houses	each	contain	2	Rooms.
23	„	„	„	3	„
5	„	„	„	4	„
5	Cellars	each	consisting	of 1	Room.

Drainage, &c. Many houses have no sink stones, and the waste pipes from those which do exist, although in many instances trapped are not disconnected from the sewer.

Surroundings. Only a few of the houses have any yard space. The privies and ashpits are usually placed at the end of each *cul de sac* clear of the houses, but those situate in the yards are built up to the house wall. The flagging of the yards is generally in a broken condition.

Closets. There are thirty-four privies, and thirteen water closets. Some of the former are in a bad state of repair, but the water closets are fairly good. These sanitary conveniences are placed in a better position than those in Longlands Street, but in some cases are unpleasantly near to the living room window.

Population.—466.

The average number of people per house	-	4·2
The average number of people per closet	-	9·9

Total death rate.

In	1895	was	49·3
„	1896	„	38·6
„	1897	„	30·0

GARDEN PLACE.

Total Buildings.—6, all of which are private dwelling-houses.

CONDITION OF HOUSES :—

Walls, Roof, &c. Are in fairly good condition except in one house which is damp.

Ceilings, Staircases, &c. In fair condition except in one instance.

No. of Rooms.

5 Houses each contain 3 rooms.
1 House consists of 1 room.

Drainage, &c. Four sink wastes require disconnection. The eaves spouting is in bad condition.

Surroundings. There is a row of privies and ashpits used by the inhabitants of Longcroft Place, contiguous to the back wall of those houses. The gable end of two houses adjoins the Westgate Baptist Chapel Graveyard.

Closets. There are two privies and one ashpit in the yard.

Population.—25.

Average number of persons per house	-	4.1
Average number of persons per closet	-	12

CHAIN STREET.

Total Buildings.—37, constituted as follows:—

Dwelling-Houses	- -	35
House and Shop combined	-	2

One of the dwelling-houses is divided into tenements and let as "furnished rooms." The average width of this street is 18 feet. The houses on the north-east side form one continuous row, and have a yard in common in the rear.

CONDITION OF HOUSES:—

Walls, Roof, &c. These are fairly good in most houses, but defective in some, and the walls of others require pointing. In one instance the house wall is bulging outwards.

Ceilings, Staircases, &c. Most in fair condition.

Number of Rooms.

18	houses	each	contain	4	rooms.
14	"	"	"	3	"
5	"	"	"	2	"

Some are very clean, others filthy.

Drainage, &c. The sink wastes are usually trapped, but some are neither trapped nor disconnected. The drainage of one yard at the corner of Grattan Road is bad.

Surroundings. Each house has some yard space attached to it, the yards themselves being in fairly good condition, generally, but here and there defective flagging is found.

Closets. The privies are too close to the back door or window, being situate in some instances only from 2 to 4 yards away. There are three water closets and twenty-eight privies for the whole street, which appear to be in a tolerably good state of repair.

Population.—201.

Average number of persons per house	-	5·4
Average number of persons per closet	-	6·6

GRATTAN ROAD.

Total Buildings.—10, constituted as follows :—

Dwelling-houses	-	7
House and shop combined or lock-up shops	-	3

CONDITION OF HOUSES. Several of the house walls require pointing, but with this exception are in fairly good condition. The woodwork and internal fittings appear also to be very little damaged. Most of the houses have yard space attached, but the flagging is need of repair, and the yard itself dirty.

Drainage. As a rule the houses are not provided with sink stones, and the waste pipes from those houses which possess them are neither trapped nor disconnected.

Number of Rooms.

2 Houses each consist of one room (shops).
6 Houses each contain 2 rooms.
1 House has 4 rooms.
1 House has 8 rooms.

Closets. The closet accommodation consists of 4 water closets, situate in a triangular shaped yard, and 1 privy.

Population.—23.

Average number of persons per house	-	2.3
Average number of persons per closet	-	4.6

BELL STREET.

Total Buildings.—10, all dwelling-houses.

CONDITION OF HOUSES. Six of the houses are built back-to-back, and four are through houses, the latter alone having any yard space attached. The walls and roofs are moderately good, but the ceilings and staircases, &c., are in bad condition and many doors and steps are broken.

All these houses consist of two rooms. Only one house is provided with a sink stone, the waste pipe from which is neither trapped nor disconnected.

Closets. The closet accommodation consists of two privies and two water closets.

Population.—45.

Average number of persons per house	-	4·5
Average number of persons per closet	-	11·2

TURK STREET.

Total Buildings.—13, all dwelling-houses.

CONDITION OF HOUSES. In the case of one house the roof is in bad condition, and the gable end of another house is damp, otherwise the houses are in a fairly good state of preservation. All the houses are built back-to-back and there is no yard space attached.

Drainage. About half the houses are provided with sink waste pipes, one of which is neither trapped nor disconnected.

Number of Rooms.

6 Houses each contain 3 rooms.
7 Houses each contain 2 rooms

Closets. There are five privies for the thirteen houses, the walls of two houses adjoining those of the privies.

Population.—76.

Average number of persons per house	-	5.8
Average number of persons per closet	-	15.2

ONE STREET.

Total Buildings.—14, all dwelling-houses.

CONDITION OF HOUSES. These houses are in fairly good condition with the exception of some dampness in two or three due to defective roof or spouting and want of wall pointing. All the houses with one exception are built back-to-back and no yard space attached.

Number of Rooms.

3 Houses each contain 3 rooms.
11 Houses each contain 2 rooms.

Drainage, &c. The sink waste pipes are mostly trapped but not disconnected.

Closets. There are eight privies for the houses in this street situated in a recess which appears to have been made by the removal of a building. The privy walls directly adjoin those of some of the houses.

Population.—58.

Average number of persons per house	-	4.9
Average number of persons per closet	-	9.2

WEST END STREET.

Total Buildings.—7, all dwelling-houses.

The property is in fairly good condition with the exception of houses numbered 1, 3 and 5.

The privy accommodation is situate in a recess about the centre of the row of houses.

Population.—41.

Average number of persons per house	-	5.8
Average number of persons per closet	-	13.7

ROUNDHILL PLACE.

Total Buildings.—3, as follows :—

Dwelling-houses	-	2
House and shop	-	1

CONDITION OF HOUSES.—Fairly good. Only one house has any yard space attached. All the sink wastes are trapped but not disconnected.

The closet accommodation consists of part use of privies in One street and Bell Street.

Population.—14.

ST. THOMAS'S ROAD.

The houses in this Road mentioned in the representation number five, and consist of two dwelling-houses and three shops and houses combined.

With the exception of defective sink waste pipes the property appears to be in fair condition. Owing to recent alterations for street improvements the closets, which consist of privies, are in a much exposed position and in need of repair.

PROVIDENCE STREET.

Only one building in Providence Street is included in the representation ; it is a small lock-up shop.

REPORT OF CITY ANALYST.

Analysis of three samples of Air taken from Longcroft Place and Longlands Street, between 11 a.m. and 12.40 p.m., on July 25th, 1898.

METEOROLOGICAL CONDITIONS.

Fine day with scarcely any wind.

Average Temperature - - 71·5 F.

Average Barometric Reading - 29.70″

(**A**) Air taken from Back-yard in Longcroft Place, opposite No. 32.

There were three privies in the yard, from which the smell was very offensive. The yard had been recently washed and the flags were wet.

(**B**) Air from Mrs. Mullarky's tenement, No. 62, Longcroft Place.

The door was wide open and the only occupants were Mrs. Mullarky and two small children. The air in the room did not feel "close."

(**C**) Air from tenement No. 69, Longlands Street.

The occupants were three women, and the air presented no disagreeable features to the senses.

CHEMICAL ANALYSIS OF THE SAMPLES OF AIR.

(BY VOLUME.)

	A	B	C
Nitrogen - -	78·7750	78·6773	78·7797
Oxygen - -	20·7000	20·6700	20·6950
Carbonic Acid Gas	·0663	·0882	·0664
Aqueous Vapour -	·4587	·5645	·4589
Sulphurous Acid -	Traces.	Traces.	Traces.
Sulphuric Acid -	Traces.	Traces.	Traces.
	100·	100·	100·

BACTERIOLOGICAL ANALYSIS.

	No. of Bacilli Coli Communis :—		Spores of Moulds.
	Per litre.	*Per cubic foot.*	*Per cubic foot.*
A	13	370	175
B	15	425	—
C	10	283	—

The presence of so large a number of germs which are always associated with animal excrement is due to the existence of filthy privies.

F. W. RICHARDSON, F.I.C., F.C.S.

Area edged round Pink contains 22,650 Sq. Yds. or 4 Acres 2 Roods 28 Perch & 23 Sq. Yds.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

BRAMPTON AND WALTON URBAN DISTRICT COUNCIL,

FOR THE

YEAR 1898.

CHESTERFIELD:
Printed by Wilfred Edmunds at "The Derbyshire Times" Office.
1899.

ANNUAL REPORT

BY THE

MEDICAL OFFICER OF HEALTH

TO THE

BRAMPTON AND WALTON URBAN DISTRICT COUNCIL,

FOR THE YEAR 1898.

GENTLEMEN,

The past year has in many respects been satisfactory, and some important sanitary improvements have been effected.

Births and Deaths.

During the year there were registered 63 births (26 boys and 37 girls), giving an annual birth-rate of 23·3 per thousand, as compared with 25.5 in the preceding year.

The deaths recorded during the year numbered 28 (18 males and 10 females). The excess of births over deaths is, therefore, 35; but I have again taken the population at 2700 in calculating the birth and death rates. The death-rate for the year is the lowest I have yet been able to record, namely 10·3, as compared with 11·1 in 1897. The following table gives a comparison of the vital statistics for

the past six years.

Year.	Birth-rate.	Death-rate.	Infantile Mortality per 1000 Births.	Zymotic Death-rate.
1893	31·5	15·0	200	1·1
1894	27·2	12·2	130	1·5
1895	26·8	12·6	102	1·1
1896	26·2	13·7	126	1·4
1897	25·5	11·1	43	1·1
1898	23·3	10·3	63	·37

At the end of the Report is the usual table giving the various causes of death; but it is worth noting here that only one death resulted from infectious disease (Measles), giving a Zymotic death-rate of ·37, which is also the lowest figure in our record. It will be noticed that the number of deaths caused by Phthisis is somewhat larger than usual. No fewer than five deaths are set down to this cause, and most of these occurred at Holymoorside. Considerable attention has recently been directed to this subject, and it cannot be too widely known that Phthisis is now looked upon as an infectious disease, communicable from the sick to the healthy. The recognition of its true nature should lead to the adoption of practical measures, and more attention should be paid to the importance of fresh air and sunlight; bedroom ventilation; prevention of overcrowding; isolation of the sick; and disinfection of patients' sputum. The subject has also an important relation to tuberculous disease in cattle; and a pure milk supply.

The following summary gives a rough grouping of the deaths in relation to their cause:—

Zymotic Diseases:

Measles 1

CONSTITUTIONAL DISEASES:	
Phthisis	5
Cancer	2
Diabetes...	1
LOCAL DISEASES:	
Respiratory	5
Circulatory	2
Various	5
DEVELOPMENTAL DISEASES:	
Premature Birth	1
Old Age	6

As to age, no fewer than 11 deaths took place at or over the age of 70, and 6 of them were returned as due to senile decay.

Infantile Mortality.

In 1897 your District had the lowest rate of Infantile Mortality of any Urban or Rural District in the County. For 1898 the figures are not much in excess, only 4 deaths having occurred under the age of 1 year, giving a rate of 63 per thousand births. The causes of these infantile deaths were as follows:—

Premature Birth	1
Asthenia	1
Marausmus	2

Although in the summer and autumn infantile diarrhœa was extremely prevalent throughout the County, greatly increasing the death-rate in many places, not a single death is set down to this cause.

Infectious Diseases.

In February there was an outbreak of Scarlatina in the Industrials Schools, Ashgate Road. The Medical Officer took the necessary precautions to prevent the complaint spreading,

but in spite of his efforts 21 children became infected. The fact that the Industrial School children now attend the various Public Schools, thus affording them increased opportunities of contracting infectious diseases, renders the Institution more liable to outbreaks of this nature.

Besides these, 9 other cases of Scarlatina, involving 4 houses, were notified. These were located as follows :—

Holymoorside	6
Walton	2
Cutthorpe	1

In each case disinfectants were supplied, and the houses were afterwards fumigated. There were no deaths.

The only other Infectious disease notified was a case of Diphtheria, which occurred at Walton Hall, near the end of the year. A careful inspection of the house and farm-buildings was made, but no probable source of infection was found. About three years ago a case of Diphtheria occurred in a neighbouring cottage, and both families obtain their water-supply from the same well. I examined the water from this well, which is far removed from any dwelling, and found it to be a fair sample of surface well-water. It is placed at the bottom of a sloping field, and, of course, is liable to contamination from manure and cattle-droppings. As the lad attended school at Chesterfield, it is possible that he contracted the disease away from his own home.

In January there were a few cases of Measles, while in March, Influenza was somewhat prevalent,

and two deaths were occasioned by complications attending it.

Sewerage Works.

In my report last year I went very fully into the question of Sewage treatment at Holymoorside. You decided that something should be done to improve matters, and Mr. J. Aird Murray, of Sheffield, was instructed to prepare plans. This he did, but the estimated cost of the scheme (£850) was considered to be an unreasonable amount to expend on the improvement of works for the purification of village slop water from some 80 houses, and the dye-water from the Mill. It was, therefore, decided to proceed on more cautious lines, and your Surveyor was instructed to prepare a filter-bed on the modern bacteriological principle. This has been done, and we have now at work a filter which is 12½ yards wide by 15 yards long, and over a yard in depth, built up from the bottom thus:—large rubble stones, small rubble stones, 6 inches ashes, and the remainder crushed coal, with a layer of sand on the surface. In my Report last month I stated "that the result is satisfactory. The bed is easily able to take all the sewage, and the examination of the effluent shows that the filter is acting not merely as a mechanical strainer, but as a bacteriological filter, as explained in my last Report." Since then we have had another month's experience, and the result lately has not been quite so satisfactory. The sewage does not pass through so readily, and the effluent is not so good. To improve matters the surface sand should be raked over at least once a week. Under the new system the works will require much

more attention than they have done in the past, necessitating increased remuneration to the attendant. Filters on this principle should not be used continuously. They require a daily rest of at least eight hours. At present we are using our new filter alternately with the best of the old filtering beds, each for twelve hours. But it would be better to proceed at once with the construction of another filter similar to the one we have, and alongside it. To further improve matters, and prevent the filter getting so soon choked, something should be done to remove the suspended matter. The usual way to do this is by the construction of a precipitation tank, but I think the same end might be attained at less expense by utilizing one of our old beds as a sort of settling pond. The old filtering bed on the higher side ought to be somewhat deepened and the ridges removed. The sewage would then be allowed to flood this bed, and allowed to settle before passing on to the biological filter. In a similar way the bed on the other side might be utilized for the reception of the filtered sewage, where, under the influence of air and sunlight, still further purification and discoloration would be effected before passing it into the stream. It would be a great convenience if the present reception tank had a depression made at the bottom into which the sludge would fall, and from which it could be removed by means of a pnmp. An automatic fiushing arrangement is also required to supply the filter with sewage intermittently. With these additions and improvements, I think there can be little doubt that your Sewerage Works would meet all reasonable requirements. A circumstance which

has made the sewage treatment much easier should be mentioned. The English Sewing Cotton Co. have adopted a new system of dyeing. They have discarded the use of Logwood and its derivatives, with the result that the fine black suspended matter we have always found so troublesome has now disappeared. The appearance of the stream indicates the improvement effected. Complaints were made to me about a large number of dead fish which were observed in the stream about Christmas and for some weeks after. Knowing that a new system of dyeing had been introduced, it was, perhaps, natural to suspect it as the cause. To set the matter at rest, during the past month I have made some experiments, and I am pleased to be able to state that our sewage contains nothing injurious to fish. I have kept gold-fish alive in pure sewage effluent for three weeks, changing the water three times. This is, of course, a severe test, as in practice the sewage is diluted many hundreds of times by the water in the stream. A portion of the dye waste, the used-up base bath, is only discharged at long intervals. Through the courtesy of Messrs. Manlove I obtained some of this fluid, and diluted it with water in the portion of 1 of dye to 19 of water. I find gold-fish live in it. I think it is, therefore, improbable that our sewage had anything to do with the large number of dead fish seen in the stream. A farmer, about the time mentioned, was known to lime his land near the river, and this circumstance affords a likely explanation.

Walton Water Supply.

The question of a water supply for Walton has engaged your attention, at intervals, for many years.

I think it is now approaching a solution. I have pleasure in stating that the Chesterfield Gas and Water Board has decided to supply this portion of your district on what, I think, are very generous terms. It is proposed to construct a small reservoir near the site of the spring at Slate Pit Dale, and from it to lay a water main as far as the Blue Stoops. I have examined the water from this spring, and find it to be of excellent quality. Negotiations are now proceeding for the purchase of land for the reservoir, and if they are satisfactorily concluded, I think we can look forward to the residents of Walton having an abundant supply before the summer.

Old Brampton Water Supply.

In 1897 a child died at Old Brampton from tubercular disease of the bowel glands, and some of the other children in the same house were suffering from tubercular glands in the neck. The house is built quite close to the church-yard, and the well in the back-kitchen is not many feet from the graves. I examined the water and found it to be highly polluted, and ordered its use to be discontinued. This circumstance led me to examine the water from neighbouring wells, and I now give you the result.

1.	Well at Parish Clerk's (just described),	very bad.
2.	,, ,, George and Dragon,	,,
3.	,, ,, House below George and Dragon	,,
4.	,, in Vicarage kitchen,	bad.
5.	,, ,, field (supplying Vicarage),	good.
6.	,, ,, field behind Church-yard,	very bad.
7.	,, behind Horsefall Row,	good.

From this it will be seen that the wells in the immediate vicinity of the Church-yard are polluted,

and some of them are dangerous to use. In the case of 2 and 3 there are local insanitary conditions which might affect the water. I think if a public well were sunk and a pump erected on ground above the level of the church-yard, it would meet the requirements of the case. Perhaps the Chesterfield Gas and Water Board could be induced to undertake the supply of Old Brampton as well as Walton.

Throughout the year the general health has been good, and continues so up to the present. The death-rate is low, and the sanitary condition of your district may be considered fairly satisfactory.

Appended is the usual summary of useful work done by your Inspector of Nuisances. It only represents the more formal portion of his work. As in former years much has been done of which no record is kept.

I am,

Gentlemen,

Your obedient servant,

JAMES A. GOODFELLOW.

15th March, 1899.

Table of POPULATION, BIRTHS, and of NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1898, in the BRAMPTON and WALTON Urban District, classified according to Diseases, Ages and Localities.

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	Population at all Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.											Number of such cases removed from their Homes in the several Localities for treatment in Isolation Hospital.										
									Fevers.											Fevers.						
	Last Census.	Estimated to middle of 1898.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.
(a)	(b)	(c)	(d)	(e)	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11
				Under 5	..	1	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	8	1	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BRAMPTON & WALTON	..	2700	63	Under 5	..	7	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	14	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				Under 5	..	....	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Industrial Schools	..	....	..	5 upwards	..	....	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				Under 5	..	....	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	....	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals		2700	63	Under 5	..	8	..	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	22	1	..	..	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

State here whether "Notification of Infectious Diseases" is compulsory in the District. Yes. Since when? 1st. February, 1894.

TABLE OF DEATHS during the Year 1898, in the BRAMPTON & WALTON Urban District, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics; public institutions, being shown as separate localities.	Mortality from all causes, at subjoined ages.								Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.																				
													Fevers.																
	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typ'oid	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa & Dysentery	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia & Pleurisy.	Heart Disease.	Influenza,	Injuries.	All other Diseases.	Total.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
								Under 5	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	4	6
								5 upwards ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	..	..	..	14	22
								Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	....	....
BRAMPTON AND								5 upwards ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	....	....
WALTON	28	4	2	....	3	8	11	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	....	....
								5 upwards ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	....	....
								Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	....	....
								5 upwards ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	....	....
TOTALS.....	28	4	2	....	3	8	11	Under 5	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	4	6
								5 upwards ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	..	..	..	14	22

Area in Acres....9,852. Population, 1891....2,532. Estimated, 1898....2,700.

Medical Officer of Health, JAMES A. GOODFELLOW. Dated, 15th March, 1899.

Summary of Sanitary Work done in the Inspector of Nuisances' Department during the Year 1898 in the Derbyshire portion of the Urban Sanitary District of Brampton aud Walton.

	Inspections and Observations made.	Informal Notices served by Inspector.	Legal Notices by Authority.	Nuisances Abated after Notice.
DWELLING-HOUSES AND SCHOOLS—				
Foul Conditions				
Structural Defects				
Overcrowding	1		1	1
Unfit for Habitation	2		2	2
Lodging Houses...				
Dairies and Milkshops				
Cow Sheds				
Bakehouses				
Slaughter-houses (complete list of inspections not kept)...				
Canal Boats				
Ashpits and Privies	9	2	7	7
Deposits of Refuse and Manure ...	7	2	5	7
Water Closets				
HOUSE DRAINAGE—				
Defective Taps	16	1	15	10
No Disconnection	2		2	2
Other Faults	8	1	7	7
Water Supply				
Pigsties				
Animals improperly kept	1		1	1
Offensive Trades...				
Smoke Nuisances				
Other Nuisances...	3	1	2	3
TOTALS	49	7	42	40

PRECAUTIONS AGAINST INFECTIOUS DISEASES.

Houses disinfected after Infectious Diseases... 4

Method of Disinfection adopted ... Fumigation by Sulphur